

SEQUENCE LISTING

<110> Karicheti, Venkateswarlu
Silos-Santiago, Inmaculada
Eliasof, Scott D.

<120> METHODS AND COMPOSITIONS FOR TREATING
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33751, 52872, 14063, 20739, 32544, 43239, 44373, 51164,
53010, 16852, 1587, 2207, 22245, 2387, 52908, 69112, 14990,
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Trp Ala Met Leu Lys Thr Asn Arg Gly Thr Ile Gly Gly Phe Phe Leu
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Gln	Val	Ser	Gln	Asn	Gly	Gln	Leu	Ile	His	Tyr	Thr	Glu	Ser	Ile	Ser		
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Tyr Arg Leu Cys Trp Val Leu Arg Asn Ser Thr Glu Glu Arg Ile Asp				
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Leu	Tyr	Leu	Ala	Ile	Phe	Ile	Leu	Leu	Ala	Met	Thr	Ala	Val	Tyr	Thr
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 Gly Val Glu Thr Leu Val Asp Ile Tyr Gly Ser Val Pro Glu Gly Thr
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 Glu Met Phe Glu Val Tyr Gly Thr Pro Gly Val Asp Ile Tyr Ile Ser
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 Pro Asn Met Glu Arg Gly Arg Glu Arg Ala Asp Thr Arg Arg Trp Arg
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 Asp Leu Asn Asp Ser His Val Gln Ile Ser Tyr His Ser Ser His Glu
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Thr	Gly	Leu	Ile	Ser	Phe	His	Val	Thr	Leu	Leu	Asp	Asp	Ser	Asn	Glu	
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Leu	Ala	Arg	Lys	Ala	Gly	Cys	Lys	Leu	Thr	Ile	Cys	Pro	Gln	Ala	Glu	
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Gln Ala Pro His Lys Thr Leu Pro Val Val Phe Asp Ser Pro Arg Asn	
360 365 370	
ggg gaa ctg cag gat ttc cct tac aaa aga atc ctg ggt cca gat ttt	1208
Gly Glu Leu Gln Asp Phe Pro Tyr Lys Arg Ile Leu Gly Pro Asp Phe	
375 380 385	
ggt tac gtg act cgg gaa cca cgc gac agg tct gtg agt ggc ctg gac	1256
Gly Tyr Val Thr Arg Gln Pro Arg Asp Arg Ser Val Ser Gly Leu Asp	
390 395 400 405	
tcc ttt ggg aac ctg gag gtc agc cct cca gtg gtg gcc aat ggg aaa	1304
Ser Phe Gly Asn Leu Glu Val Ser Pro Pro Val Val Ala Asn Gly Lys	
410 415 420	
gag tac ccc ctg ggg agg atc ctc att ggg ggc aac ctg cct ggg tca	1352
Glu Tyr Pro Leu Gly Arg Ile Leu Ile Gly Gly Asn Leu Pro Gly Ser	
425 430 435	
agt ggc cgc agg gtc acc cag gtg gtg cgg gac ttc ctc cat gcc cag	1400
Ser Gly Arg Arg Val Thr Gln Val Val Arg Asp Phe Leu His Ala Gln	
440 445 450	
aag gtg cag ccc ccc gtg gag ctc ttt gtg gac tgg ttg gcc gtg ggc	1448
Lys Val Gln Pro Pro Val Glu Leu Phe Val Asp Trp Leu Ala Val Gly	
455 460 465	
cat gtg gat gag ttt ctg agc ttt gtc cct gtc ccc gat ggg aag ggc	1496
His Val Asp Glu Phe Leu Ser Phe Val Pro Val Pro Asp Gly Lys Gly	
470 475 480 485	
ttc cgg atg ctc ctg gcc agc cct ggg gcc tgc ttc aag ctc ttc cag	1544
Phe Arg Met Leu Leu Ala Ser Pro Gly Ala Cys Phe Lys Leu Phe Gln	
490 495 500	
gaa aag cag aag tgt ggc cac ggg agg gcc ctc ctg ttc cag ggg gtt	1592
Glu Lys Gln Lys Cys Gly His Gly Arg Ala Leu Leu Phe Gln Gly Val	
505 510 515	
gtt gat gat gag cag gtc aag acc atc tcc atc aac cag gtg ctc tcc	1640
Val Asp Asp Glu Gln Val Lys Thr Ile Ser Ile Asn Gln Val Leu Ser	
520 525 530	
aat aaa gac ctc atc aac tac aat aag ttt gtg cag agc tgc atc gac	1688
Asn Lys Asp Leu Ile Asn Tyr Asn Lys Phe Val Gln Ser Cys Ile Asp	
535 540 545	
tgg aac cgt gag gtg ctg aag cgg gag ctg ggc ctg gca gag tgt gac	1736
Trp Asn Arg Glu Val Leu Lys Arg Glu Leu Gly Leu Ala Glu Cys Asp	
550 555 560 565	
atc att gac atc cca cag ctc ttc aag acc gag agg aaa aaa gca acg	1784
Ile Ile Asp Ile Pro Gln Leu Phe Lys Thr Glu Arg Lys Lys Ala Thr	
570 575 580	

gcc ttc ttc cct gac ttg gtg aac atg ctg gtg ctg ggg aag cac ctg 1832
 Ala Phe Phe Pro Asp Leu Val Asn Met Leu Val Leu Gly Lys His Leu
 585 590 595

ggc atc ccc aag ccc ttt ggg ccc atc atc aat ggc tgc tgc tgc ctg 1880
 Gly Ile Pro Lys Pro Phe Gly Pro Ile Ile Asn Gly Cys Cys Cys Leu
 600 605 610

gag gag aag gtg cgg tcc ctg ctg gag cct ctg ggc ctc cac tgc acc 1928
 Glu Glu Lys Val Arg Ser Leu Leu Glu Pro Leu Gly Leu His Cys Thr
 615 620 625

ttc att gat gac ttc act cca tac cac atg ctg cat ggg gag gtg cac 1976
 Phe Ile Asp Asp Phe Thr Pro Tyr His Met Leu His Gly Glu Val His
 630 635 640 645

tgt ggc acc aat gtg tgc aga aag ccc ttc tct ttc aag tgg tgg aac 2024
 Cys Gly Thr Asn Val Cys Arg Lys Pro Phe Ser Phe Lys Trp Trp Asn
 650 655 660

atg gtg ccc tga gacagctccc acccaccatc ctgtccccct ggggcgggca 2076
 Met Val Pro *

ttggccaggt ggtggagaca gagacaggcc ctgaacgata agcaccaaga gacccaaggc 2136
 tccagatgga acactgaggg tgaccgtccc tctcagaagc ttttccctgg agtgtcatgc 2196
 ctcacctgca acccatgtgg ttctcagact tgaatcttct cgccccccaa aaatgaaggga 2256
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Val Pro Glu Gly Thr Glu Met Phe Glu Val Tyr Gly Thr Pro Gly Val
 35 40 45
 Asp Ile Tyr Ile Ser Pro Asn Met Glu Arg Gly Arg Glu Arg Ala Asp
 50 55 60
 Thr Arg Arg Trp Arg Phe Asp Ala Thr Leu Glu Ile Ile Val Val Met

65					70					75					80
Asn	Ser	Pro	Ser	Asn	Asp	Leu	Asn	Asp	Ser	His	Val	Gln	Ile	Ser	Tyr
				85					90					95	
His	Ser	Ser	His	Glu	Pro	Leu	Pro	Leu	Ala	Tyr	Ala	Val	Leu	Tyr	Leu
			100					105					110		
Thr	Cys	Val	Asp	Ile	Ser	Leu	Asp	Cys	Asp	Leu	Asn	Cys	Glu	Gly	Arg
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Gln	Asp	Arg	Asn	Phe	Val	Asp	Lys	Arg	Gln	Trp	Val	Trp	Gly	Pro	Ser
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Gly	Tyr	Gly	Gly	Ile	Leu	Leu	Val	Asn	Cys	Asp	Arg	Asp	Asp	Pro	Ser
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Cys	Asp	Val	Gln	Asp	Asn	Cys	Asp	Gln	His	Val	His	Cys	Leu	Gln	Asp
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Leu	Glu	Asp	Met	Ser	Val	Met	Val	Leu	Arg	Thr	Gln	Gly	Pro	Ala	Ala
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Leu	Phe	Asp	Asp	His	Lys	Leu	Val	Leu	His	Thr	Ser	Ser	Tyr	Asp	Ala
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Lys	Arg	Ala	Gln	Val	Phe	His	Ile	Cys	Gly	Pro	Glu	Asp	Val	Cys	Glu
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Ala	Tyr	Arg	His	Val	Leu	Gly	Gln	Asp	Lys	Val	Ser	Tyr	Glu	Val	Pro
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Arg	Leu	His	Gly	Asp	Glu	Glu	Arg	Phe	Phe	Val	Glu	Gly	Leu	Ser	Phe
			245					250						255	
Pro	Asp	Ala	Gly	Phe	Thr	Gly	Leu	Ile	Ser	Phe	His	Val	Thr	Leu	Leu
		260					265						270		
Asp	Asp	Ser	Asn	Glu	Asp	Phe	Ser	Ala	Ser	Pro	Ile	Phe	Thr	Asp	Thr
		275					280					285			
Val	Val	Phe	Arg	Val	Ala	Pro	Trp	Ile	Met	Thr	Pro	Ser	Thr	Leu	Pro
	290					295					300				
Pro	Leu	Glu	Val	Tyr	Val	Cys	Arg	Val	Arg	Asn	Asn	Thr	Cys	Phe	Val
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Asp	Ala	Val	Ala	Glu	Leu	Ala	Arg	Lys	Ala	Gly	Cys	Lys	Leu	Thr	Ile
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Cys	Pro	Gln	Ala	Glu	Asn	Arg	Asn	Asp	Arg	Trp	Ile	Gln	Asp	Glu	Met
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Glu	Leu	Gly	Tyr	Val	Gln	Ala	Pro	His	Lys	Thr	Leu	Pro	Val	Val	Phe
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Leu	Gly	Pro	Asp	Phe	Gly	Tyr	Val	Thr	Arg	Glu	Pro	Arg	Asp	Arg	Ser
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Val	Ser	Gly	Leu	Asp	Ser	Phe	Gly	Asn	Leu	Glu	Val	Ser	Pro	Pro	Val
			405						410					415	
Val	Ala	Asn	Gly	Lys	Glu	Tyr	Pro	Leu	Gly	Arg	Ile	Leu	Ile	Gly	Gly
		420						425					430		
Asn	Leu	Pro	Gly	Ser	Ser	Gly	Arg	Arg	Val	Thr	Gln	Val	Val	Arg	Asp
		435					440					445			
Phe	Leu	His	Ala	Gln	Lys	Val	Gln	Pro	Pro	Val	Glu	Leu	Phe	Val	Asp
	450					455					460				
Trp	Leu	Ala	Val	Gly	His	Val	Asp	Glu	Phe	Leu	Ser	Phe	Val	Pro	Val
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Pro	Asp	Gly	Lys	Gly	Phe	Arg	Met	Leu	Leu	Ala	Ser	Pro	Gly	Ala	Cys
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Phe	Lys	Leu	Phe	Gln	Glu	Lys	Gln	Lys	Cys	Gly	His	Gly	Arg	Ala	Leu
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Leu	Phe	Gln	Gly	Val	Val	Asp	Asp	Glu	Gln	Val	Lys	Thr	Ile	Ser	Ile
	515						520					525			
Asn	Gln	Val	Leu	Ser	Asn	Lys	Asp	Leu	Ile	Asn	Tyr	Asn	Lys	Phe	Val
	530					535					540				
Gln	Ser	Cys	Ile	Asp	Trp	Asn	Arg	Glu	Val	Leu	Lys	Arg	Glu	Leu	Gly

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Leu	Ala	Glu	Cys	Asp	Ile	Ile	Asp	Ile	Pro	Gln	Leu	Phe	Lys	Thr
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Arg	Lys	Lys	Ala	Thr	Ala	Phe	Phe	Pro	Asp	Leu	Val	Asn	Met	Leu
			580					585					590	
Leu	Gly	Lys	His	Leu	Gly	Ile	Pro	Lys	Pro	Phe	Gly	Pro	Ile	Ile
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Gly	Cys	Cys	Cys	Leu	Glu	Glu	Lys	Val	Arg	Ser	Leu	Leu	Glu	Pro
	610					615					620			Leu
Gly	Leu	His	Cys	Thr	Phe	Ile	Asp	Asp	Phe	Thr	Pro	Tyr	His	Met
	625				630					635				640
His	Gly	Glu	Val	His	Cys	Gly	Thr	Asn	Val	Cys	Arg	Lys	Pro	Phe
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Phe	Lys	Trp	Trp	Asn	Met	Val	Pro							
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Met Asp Val Val Asp Ser Leu Leu Val Asn Gly Ser Asn	
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atc act cct ccc tgt gaa ctc ggg ctc gaa aat gag acg ctt ttc tgc	158
Ile Thr Pro Pro Cys Glu Leu Gly Leu Glu Asn Glu Thr Leu Phe Cys	
15 20 25	
ttg gat cag ccc cgt cct tcc aaa gag tgg cag cca gcg gtg cag att	206
Leu Asp Gln Pro Arg Pro Ser Lys Glu Trp Gln Pro Ala Val Gln Ile	
30 35 40 45	
ctc ttg tac tcc ttg ata ttc ctg ctc agc gtg ctg gga aac acg ctg	254
Leu Leu Tyr Ser Leu Ile Phe Leu Leu Ser Val Leu Gly Asn Thr Leu	
50 55 60	
gtc atc acc gtg ctg att cgg aac aag cgg atg cgg acg gtc acc aac	302
Val Ile Thr Val Leu Ile Arg Asn Lys Arg Met Arg Thr Val Thr Asn	
65 70 75	
atc ttc ctc ctc tcc ctg gct gtc agc gac ctc atg ctc tgt ctc ttc	350
Ile Phe Leu Leu Ser Leu Ala Val Ser Asp Leu Met Leu Cys Leu Phe	
80 85 90	
tgc atg ccg ttc aac ctc atc ccc aat ctg ctc aag gat ttc atc ttc	398
Cys Met Pro Phe Asn Leu Ile Pro Asn Leu Leu Lys Asp Phe Ile Phe	
95 100 105	
ggg agc gcc gtt tgc aag acc acc acc tac ttc atg ggc acc tct gtg	446
Gly Ser Ala Val Cys Lys Thr Thr Thr Tyr Phe Met Gly Thr Ser Val	
110 115 120 125	

agc gta tct acc ttt aat ctg gta gcc ata tct cta gag aga tat ggt	494
Ser Val Ser Thr Phe Asn Leu Val Ala Ile Ser Leu Glu Arg Tyr Gly	
130 135 140	
gcg att tgc aaa ccc tta cag tcc cgg gtc tgg cag aca aaa tcc cat	542
Ala Ile Cys Lys Pro Leu Gln Ser Arg Val Trp Gln Thr Lys Ser His	
145 150 155	
gct ttg aag gtg att gct gct acc tgg tgc ctt tcc ttt acc atc atg	590
Ala Leu Lys Val Ile Ala Ala Thr Trp Cys Leu Ser Phe Thr Ile Met	
160 165 170	
act ccg tac ccc att tat agc aac ttg gtg cct ttt acc aaa aat aac	638
Thr Pro Tyr Pro Ile Tyr Ser Asn Leu Val Pro Phe Thr Lys Asn Asn	
175 180 185	
aac cag acc gcg aat atg tgc cgc ttt cta ctg cca aat gat gtt atg	686
Asn Gln Thr Ala Asn Met Cys Arg Phe Leu Leu Pro Asn Asp Val Met	
190 195 200 205	
cag cag tcc tgg cac aca ttc ctg tta ctc atc ctc ttt ctt att cct	734
Gln Gln Ser Trp His Thr Phe Leu Leu Leu Ile Leu Phe Leu Ile Pro	
210 215 220	
gga att gtg atg atg gtg gca tat gga tta atc tct ttg gaa ctc tac	782
Gly Ile Val Met Met Val Ala Tyr Gly Leu Ile Ser Leu Glu Leu Tyr	
225 230 235	
cag gga ata aaa ttt gag gct agc cag aag aag tct gct aaa gaa agg	830
Gln Gly Ile Lys Phe Glu Ala Ser Gln Lys Lys Ser Ala Lys Glu Arg	
240 245 250	
aaa cct agc acc acc agc agc ggc aaa tat gag gac agc gat ggg tgt	878
Lys Pro Ser Thr Thr Ser Ser Gly Lys Tyr Glu Asp Ser Asp Gly Cys	
255 260 265	
tac ctg caa aag acc agg ccc ccg agg aag ctg gag ctc cgg cag ctg	926
Tyr Leu Gln Lys Thr Arg Pro Pro Arg Lys Leu Glu Leu Arg Gln Leu	
270 275 280 285	
tcc acc ggc agc agc agc agg gcc aac cgc atc cgg agt aac agc tcc	974
Ser Thr Gly Ser Ser Ser Arg Ala Asn Arg Ile Arg Ser Asn Ser Ser	
290 295 300	
gca gcc aac ctg atg gcc aag aaa agg gtg atc cgc atg ctc atc gtc	1022
Ala Ala Asn Leu Met Ala Lys Lys Arg Val Ile Arg Met Leu Ile Val	
305 310 315	
atc gtg gtc ctc ttc ttc ttg tgc tgg atg ccc atc ttc agc gcc aac	1070
Ile Val Val Leu Phe Phe Leu Cys Trp Met Pro Ile Phe Ser Ala Asn	
320 325 330	
gcc tgg cgg gcc tac gac acc gcc tcc gca gag cgc cgc ctc tca gga	1118
Ala Trp Arg Ala Tyr Asp Thr Ala Ser Ala Glu Arg Arg Leu Ser Gly	
335 340 345	
acc ccc att tcc ttc atc ctc ctc ctg tcc tac acc tcc tcc tgc gtc	1166
Thr Pro Ile Ser Phe Ile Leu Leu Leu Ser Tyr Thr Ser Ser Cys Val	
350 355 360 365	
aac ccc atc atc tac tgc ttc atg aac aaa cgc ttc cgc ctc ggc ttc	1214

Asn	Pro	Ile	Ile	Tyr	Cys	Phe	Met	Asn	Lys	Arg	Phe	Arg	Leu	Gly	Phe	
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atg	gcc	acc	ttc	ccc	tgc	tgc	ccc	aat	cct	ggg	ccc	cca	ggg	gcg	agg	1262
Met	Ala	Thr	Phe	Pro	Cys	Cys	Pro	Asn	Pro	Gly	Pro	Pro	Gly	Ala	Arg	
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gga	gag	gtg	ggg	gag	gag	gag	gaa	ggc	ggg	acc	aca	gga	gcc	tct	ctg	1310
Gly	Glu	Val	Gly	Glu	Glu	Glu	Glu	Gly	Gly	Thr	Thr	Gly	Ala	Ser	Leu	
		400					405					410				
tcc	agg	ttc	tcg	tac	agc	cat	atg	agt	gcc	tcg	gtg	cca	ccc	cag	tga	1358
Ser	Arg	Phe	Ser	Tyr	Ser	His	Met	Ser	Ala	Ser	Val	Pro	Pro	Gln	*	
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1393																

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			20					25					30		
Pro	Arg	Pro	Ser	Lys	Glu	Trp	Gln	Pro	Ala	Val	Gln	Ile	Leu	Leu	Tyr
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Ser	Leu	Ile	Phe	Leu	Leu	Ser	Val	Leu	Gly	Asn	Thr	Leu	Val	Ile	Thr
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Val	Leu	Ile	Arg	Asn	Lys	Arg	Met	Arg	Thr	Val	Thr	Asn	Ile	Phe	Leu
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Leu	Ser	Leu	Ala	Val	Ser	Asp	Leu	Met	Leu	Cys	Leu	Phe	Cys	Met	Pro
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Phe	Asn	Leu	Ile	Pro	Asn	Leu	Leu	Lys	Asp	Phe	Ile	Phe	Gly	Ser	Ala
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Val	Cys	Lys	Thr	Thr	Thr	Tyr	Phe	Met	Gly	Thr	Ser	Val	Ser	Val	Ser
		115						120				125			
Thr	Phe	Asn	Leu	Val	Ala	Ile	Ser	Leu	Glu	Arg	Tyr	Gly	Ala	Ile	Cys
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Val	Ile	Ala	Ala	Thr	Trp	Cys	Leu	Ser	Phe	Thr	Ile	Met	Thr	Pro	Tyr
				165					170					175	
Pro	Ile	Tyr	Ser	Asn	Leu	Val	Pro	Phe	Thr	Lys	Asn	Asn	Asn	Gln	Thr
			180					185					190		
Ala	Asn	Met	Cys	Arg	Phe	Leu	Leu	Pro	Asn	Asp	Val	Met	Gln	Gln	Ser
		195					200					205			
Trp	His	Thr	Phe	Leu	Leu	Leu	Ile	Leu	Phe	Leu	Ile	Pro	Gly	Ile	Val
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Met	Met	Val	Ala	Tyr	Gly	Leu	Ile	Ser	Leu	Glu	Leu	Tyr	Gln	Gly	Ile
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Lys	Phe	Glu	Ala	Ser	Gln	Lys	Lys	Ser	Ala	Lys	Glu	Arg	Lys	Pro	Ser
				245					250					255	
Thr	Thr	Ser	Ser	Gly	Lys	Tyr	Glu	Asp	Ser	Asp	Gly	Cys	Tyr	Leu	Gln
			260					265					270		
Lys	Thr	Arg	Pro	Pro	Arg	Lys	Leu	Glu	Leu	Arg	Gln	Leu	Ser	Thr	Gly
		275					280					285			
Ser	Ser	Ser	Arg	Ala	Asn	Arg	Ile	Arg	Ser	Asn	Ser	Ser	Ala	Ala	Asn
	290					295					300				

Leu	Met	Ala	Lys	Lys	Arg	Val	Ile	Arg	Met	Leu	Ile	Val	Ile	Val	Val
305					310					315					320
Leu	Phe	Phe	Leu	Cys	Trp	Met	Pro	Ile	Phe	Ser	Ala	Asn	Ala	Trp	Arg
				325					330					335	
Ala	Tyr	Asp	Thr	Ala	Ser	Ala	Glu	Arg	Arg	Leu	Ser	Gly	Thr	Pro	Ile
			340					345					350		
Ser	Phe	Ile	Leu	Leu	Leu	Ser	Tyr	Thr	Ser	Ser	Cys	Val	Asn	Pro	Ile
	355						360					365			
Ile	Tyr	Cys	Phe	Met	Asn	Lys	Arg	Phe	Arg	Leu	Gly	Phe	Met	Ala	Thr
	370					375					380				
Phe	Pro	Cys	Cys	Pro	Asn	Pro	Gly	Pro	Pro	Gly	Ala	Arg	Gly	Glu	Val
385					390					395					400
Gly	Glu	Glu	Glu	Glu	Gly	Gly	Thr	Thr	Gly	Ala	Ser	Leu	Ser	Arg	Phe
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Ser	Tyr	Ser	His	Met	Ser	Ala	Ser	Val	Pro	Pro	Gln				
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 Met Asn Ser Phe Phe Gly
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acc cca gcg gcc agc tgg tgc ctc ctg gaa agt gac gtc tca tct gca 164
 Thr Pro Ala Ala Ser Trp Cys Leu Leu Glu Ser Asp Val Ser Ser Ala
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ccg gac aag gag gcg ggg agg gag cgc aga gca ctc agc gtc cag cag 212
 Pro Asp Lys Glu Ala Gly Arg Glu Arg Arg Ala Leu Ser Val Gln Gln
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cgc ggc ggg cca gcc tgg agc gga agc ctg gag tgg agc agg cag tcc 260
 Arg Gly Gly Pro Ala Trp Ser Gly Ser Leu Glu Trp Ser Arg Gln Ser
 40 45 50

gcg ggg gac aga cgt cgg ctg gga ttg agc cgg cag act gcg aaa agt 308
 Ala Gly Asp Arg Arg Arg Leu Gly Leu Ser Arg Gln Thr Ala Lys Ser
 55 60 65 70

agc tgg agc cgg agc agg gac aga acc tgt tgc tgc aga cgg gct tgg 356
 Ser Trp Ser Arg Ser Arg Asp Arg Thr Cys Cys Cys Arg Arg Ala Trp
 75 80 85

tgg att ctg gtt cct gcc gcc gac agg gct cgc cgg gag agg ttc atc 404
 Trp Ile Leu Val Pro Ala Ala Asp Arg Ala Arg Arg Glu Arg Phe Ile
 90 95 100

atg aat gag aaa tgg gac aca aac tct tca gaa aac tgg cat ccc atc 452
 Met Asn Glu Lys Trp Asp Thr Asn Ser Ser Glu Asn Trp His Pro Ile
 105 110 115

tgg aat gtc aat gac aca aag cat cat ctg tac tca gat att aat att	500
Trp Asn Val Asn Asp Thr Lys His His Leu Tyr Ser Asp Ile Asn Ile	
120 125 130	
acc tat gtg aac tac tat ctt cac cag cct caa gtg gca gca atc ttc	548
Thr Tyr Val Asn Tyr Tyr Leu His Gln Pro Gln Val Ala Ala Ile Phe	
135 140 145 150	
att att tcc tac ttt ctg atc ttc ttt ttg tgc atg atg gga aat act	596
Ile Ile Ser Tyr Phe Leu Ile Phe Phe Leu Cys Met Met Gly Asn Thr	
155 160 165	
gtg gtt tgc ttt att gta atg agg aac aaa cat atg cac aca gtc act	644
Val Val Cys Phe Ile Val Met Arg Asn Lys His Met His Thr Val Thr	
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aat ctc ttc atc tta aac ctg gcc ata agt gat tta cta gtt ggc ata	692
Asn Leu Phe Ile Leu Asn Leu Ala Ile Ser Asp Leu Leu Val Gly Ile	
185 190 195	
ttc tgc atg cct ata aca ctg ctg gac aat att ata gca gga tgg cca	740
Phe Cys Met Pro Ile Thr Leu Leu Asp Asn Ile Ile Ala Gly Trp Pro	
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Phe Gly Asn Thr Met Cys Lys Ile Ser Gly Leu Val Gln Gly Ile Ser	
215 220 225 230	
gtc gca gct tca gtc ttt acg tta gtt gca att gct gta gat agg ttc	836
Val Ala Ala Ser Val Phe Thr Leu Val Ala Ile Ala Val Asp Arg Phe	
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Gln Cys Val Val Tyr Pro Phe Lys Pro Lys Leu Thr Ile Lys Thr Ala	
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Phe Val Ile Ile Met Ile Ile Trp Val Leu Ala Ile Thr Ile Met Ser	
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Pro Ser Ala Val Met Leu His Val Gln Glu Glu Lys Tyr Tyr Arg Val	
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Arg Leu Asn Ser Gln Asn Lys Thr Ser Pro Val Tyr Trp Cys Arg Glu	
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gac tgg cca aat cag gaa atg agg aag atc tac acc act gtg ctg ttt	1076
Asp Trp Pro Asn Gln Glu Met Arg Lys Ile Tyr Thr Thr Val Leu Phe	
315 320 325	
gcc aac atc tac ctg gct ccc ctc tcc ctc att gtc atc atg tat gga	1124
Ala Asn Ile Tyr Leu Ala Pro Leu Ser Leu Ile Val Ile Met Tyr Gly	
330 335 340	
agg att gga att tca ctc ttc agg gct gca gtt cct cac aca ggc agg	1172
Arg Ile Gly Ile Ser Leu Phe Arg Ala Ala Val Pro His Thr Gly Arg	
345 350 355	
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Lys	Asn	Gln	Glu	Gln	Trp	His	Val	Val	Ser	Arg	Lys	Lys	Gln	Lys	Ile		
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Ile	Lys	Met	Leu	Leu	Ile	Val	Ala	Leu	Leu	Phe	Ile	Leu	Ser	Trp	Leu		
375					380					385					390		
ccc	ctg	tgg	act	cta	atg	atg	ctc	tca	gac	tac	gct	gac	ctt	tct	cca	1316	
Pro	Leu	Trp	Thr	Leu	Met	Met	Leu	Ser	Asp	Tyr	Ala	Asp	Leu	Ser	Pro		
				395					400					405			
aat	gaa	ctg	cag	atc	atc	aac	atc	tac	atc	tac	cct	ttt	gca	cac	tgg	1364	
Asn	Glu	Leu	Gln	Ile	Ile	Asn	Ile	Tyr	Ile	Tyr	Pro	Phe	Ala	His	Trp		
			410					415					420				
ctg	gca	ttc	ggc	aac	agc	agt	gtc	aat	ccc	atc	att	tat	ggg	ttc	ttc	1412	
Leu	Ala	Phe	Gly	Asn	Ser	Ser	Val	Asn	Pro	Ile	Ile	Tyr	Gly	Phe	Phe		
		425					430					435					
aac	gag	aat	ttc	cgc	cgt	ggg	ttc	caa	gaa	gct	ttc	cag	ctc	cag	ctc	1460	
Asn	Glu	Asn	Phe	Arg	Arg	Gly	Phe	Gln	Glu	Ala	Phe	Gln	Leu	Gln	Leu		
	440					445					450						
tgc	caa	aaa	aga	gca	aag	cct	atg	gaa	gct	tat	acc	cta	aaa	gct	aaa	1508	
Cys	Gln	Lys	Arg	Ala	Lys	Pro	Met	Glu	Ala	Tyr	Thr	Leu	Lys	Ala	Lys		
455					460					465					470		
agc	cat	gtg	ctc	ata	aac	aca	tct	aat	cag	ctt	gtc	cag	gaa	tct	aca	1556	
Ser	His	Val	Leu	Ile	Asn	Thr	Ser	Asn	Gln	Leu	Val	Gln	Glu	Ser	Thr		
				475					480					485			
ttt	caa	aac	cct	cat	ggg	gaa	acc	ttg	ctt	tat	agg	aaa	agt	gct	gaa	1604	
Phe	Gln	Asn	Pro	His	Gly	Glu	Thr	Leu	Leu	Tyr	Arg	Lys	Ser	Ala	Glu		
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aaa	ccc	caa	cag	gaa	tta	gtg	atg	gaa	gaa	tta	aaa	gaa	act	act	aac	1652	
Lys	Pro	Gln	Gln	Glu	Leu	Val	Met	Glu	Glu	Leu	Lys	Glu	Thr	Thr	Asn		
		505					510					515					
agc	agt	gag	att	taa	aaagagctag	tgtgataatc	ctaactctac	tacgcattat								1707	
Ser	Ser	Glu	Ile	*													
		520															
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ataaaacatt	tactgaaagc	cctctctggc	aaaaaaatta	aaaataaaca	aaaatgggtca											1827	
taagatcata	aacaatctta	tggtgtataa	aaatacgtag	agtgacttag	acatgtttgc											1887	
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 <213> Homo sapiens

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 Ala Leu Ser Val Gln Gln Arg Gly Gly Pro Ala Trp Ser Gly Ser Leu
 35 40 45
 Glu Trp Ser Arg Gln Ser Ala Gly Asp Arg Arg Arg Leu Gly Leu Ser

50	55	60
Arg Gln Thr Ala Lys Ser Ser Trp Ser Arg Ser Arg Asp Arg Thr Cys		
65	70	75
Cys Cys Arg Arg Ala Trp Trp Ile Leu Val Pro Ala Ala Asp Arg Ala		
	85	90
Arg Arg Glu Arg Phe Ile Met Asn Glu Lys Trp Asp Thr Asn Ser Ser		
	100	105
Glu Asn Trp His Pro Ile Trp Asn Val Asn Asp Thr Lys His His Leu		
	115	120
Tyr Ser Asp Ile Asn Ile Thr Tyr Val Asn Tyr Tyr Leu His Gln Pro		
	130	135
Gln Val Ala Ala Ile Phe Ile Ile Ser Tyr Phe Leu Ile Phe Phe Leu		
145	150	155
Cys Met Met Gly Asn Thr Val Val Cys Phe Ile Val Met Arg Asn Lys		
	165	170
His Met His Thr Val Thr Asn Leu Phe Ile Leu Asn Leu Ala Ile Ser		
	180	185
Asp Leu Leu Val Gly Ile Phe Cys Met Pro Ile Thr Leu Leu Asp Asn		
	195	200
Ile Ile Ala Gly Trp Pro Phe Gly Asn Thr Met Cys Lys Ile Ser Gly		
	210	215
Leu Val Gln Gly Ile Ser Val Ala Ala Ser Val Phe Thr Leu Val Ala		
225	230	235
Ile Ala Val Asp Arg Phe Gln Cys Val Val Tyr Pro Phe Lys Pro Lys		
	245	250
Leu Thr Ile Lys Thr Ala Phe Val Ile Ile Met Ile Ile Trp Val Leu		
	260	265
Ala Ile Thr Ile Met Ser Pro Ser Ala Val Met Leu His Val Gln Glu		
	275	280
Glu Lys Tyr Tyr Arg Val Arg Leu Asn Ser Gln Asn Lys Thr Ser Pro		
	290	295
Val Tyr Trp Cys Arg Glu Asp Trp Pro Asn Gln Glu Met Arg Lys Ile		
305	310	315
Tyr Thr Thr Val Leu Phe Ala Asn Ile Tyr Leu Ala Pro Leu Ser Leu		
	325	330
Ile Val Ile Met Tyr Gly Arg Ile Gly Ile Ser Leu Phe Arg Ala Ala		
	340	345
Val Pro His Thr Gly Arg Lys Asn Gln Glu Gln Trp His Val Val Ser		
	355	360
Arg Lys Lys Gln Lys Ile Ile Lys Met Leu Leu Ile Val Ala Leu Leu		
	370	375
Phe Ile Leu Ser Trp Leu Pro Leu Trp Thr Leu Met Met Leu Ser Asp		
385	390	395
Tyr Ala Asp Leu Ser Pro Asn Glu Leu Gln Ile Ile Asn Ile Tyr Ile		
	405	410
Tyr Pro Phe Ala His Trp Leu Ala Phe Gly Asn Ser Ser Val Asn Pro		
	420	425
Ile Ile Tyr Gly Phe Phe Asn Glu Asn Phe Arg Arg Gly Phe Gln Glu		
	435	440
Ala Phe Gln Leu Gln Leu Cys Gln Lys Arg Ala Lys Pro Met Glu Ala		
	450	455
Tyr Thr Leu Lys Ala Lys Ser His Val Leu Ile Asn Thr Ser Asn Gln		
465	470	475
Leu Val Gln Glu Ser Thr Phe Gln Asn Pro His Gly Glu Thr Leu Leu		
	485	490
Tyr Arg Lys Ser Ala Glu Lys Pro Gln Gln Glu Leu Val Met Glu Glu		
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Leu Lys Glu Thr Thr Asn Ser Ser Glu Ile		
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ctacgacccc ctcgctccaa tttcccctgg ggctctccct ccgcgcccct gttccccgcc 180
tccctttaac atctggatta ttttttgcaa tagcgctttc tggttttgta agtgccaatt 240
tgaaacattt tttgccccca taactcgtgg actacaaagc acaaaggacc tgaaaa atg 299
                                                    Met
                                                    1

tac agc ttc aat act ctt cga ctc tac ctt tcg gga gcc att gta ttc 347
Tyr Ser Phe Asn Thr Leu Arg Leu Tyr Leu Ser Gly Ala Ile Val Phe
                    5                      10                      15

ttc agc ctt gct gct tct aag gag gct gaa gct gct cgc tcc gca acc 395
Phe Ser Leu Ala Ala Ser Lys Glu Ala Glu Ala Ala Arg Ser Ala Thr
                    20                      25                      30

aag cct atg tca ccc tcg gat ttc ctg gat aag cta atg ggg aga acc 443
Lys Pro Met Ser Pro Ser Asp Phe Leu Asp Lys Leu Met Gly Arg Thr
                    35                      40                      45

tcc gga tat gat gcc agg atc agg ccc aat ttt aaa ggt ccc cca gtg 491
Ser Gly Tyr Asp Ala Arg Ile Arg Pro Asn Phe Lys Gly Pro Pro Val
                    50                      55                      60                      65

aac gtg agc tgc aac att ttc atc aac agc ttt ggt tcc att gct gag 539
Asn Val Ser Cys Asn Ile Phe Ile Asn Ser Phe Gly Ser Ile Ala Glu
                    70                      75                      80

aca acc atg gac tat agg gtc aac atc ttc ctg cgg cag caa tgg aac 587
Thr Thr Met Asp Tyr Arg Val Asn Ile Phe Leu Arg Gln Gln Trp Asn
                    85                      90                      95

gac ccc cgc ctg gcc tat aat gaa tac cct gac gac tct ctg gac ctg 635
Asp Pro Arg Leu Ala Tyr Asn Glu Tyr Pro Asp Asp Ser Leu Asp Leu
                    100                      105                      110

gac cca tcc atg ctg gac tcc atc tgg aaa cct gac ctg ttc ttt gcc 683
Asp Pro Ser Met Leu Asp Ser Ile Trp Lys Pro Asp Leu Phe Phe Ala
                    115                      120                      125

aac gag aag ggg gcc cac ttc cat gag atc acc aca gac aac aaa ttg 731
Asn Glu Lys Gly Ala His Phe His Glu Ile Thr Thr Asp Asn Lys Leu
                    130                      135                      140                      145

cta agg atc tcc cgg aat ggg aat gtc ctc tac agc atc aga atc acc 779
Leu Arg Ile Ser Arg Asn Gly Asn Val Leu Tyr Ser Ile Arg Ile Thr
                    150                      155                      160

ctg aca ctg gcc tgc ccc atg gac ttg aag aat ttc ccc atg gat gtc 827
Leu Thr Leu Ala Cys Pro Met Asp Leu Lys Asn Phe Pro Met Asp Val
                    165                      170                      175
  
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cag aca tgt atc atg caa ctg gaa agc ttt gga tat acg atg aat gac Gln Thr Cys Ile Met Gln Leu Glu Ser Phe Gly Tyr Thr Met Asn Asp 180 185 190	875
ctc atc ttt gag tgg cag gaa cag gga gcc gtg cag gta gca gat gga Leu Ile Phe Glu Trp Gln Glu Gln Gly Ala Val Gln Val Ala Asp Gly 195 200 205	923
cta act ctg ccc cag ttt atc ttg aag gaa gag aag gac ttg aga tac Leu Thr Leu Pro Gln Phe Ile Leu Lys Glu Glu Lys Asp Leu Arg Tyr 210 215 220 225	971
tgc acc aag cac tac aac aca ggt aaa ttc acc tgc att gag gcc cgg Cys Thr Lys His Tyr Asn Thr Gly Lys Phe Thr Cys Ile Glu Ala Arg 230 235 240	1019
ttc cac ctg gag cgg cag atg ggt tac tac ctg att cag atg tat att Phe His Leu Glu Arg Gln Met Gly Tyr Tyr Leu Ile Gln Met Tyr Ile 245 250 255	1067
ccc agc ctg ctc att gtc atc ctc tca tgg atc tcc ttc tgg atc aac Pro Ser Leu Leu Ile Val Ile Leu Ser Trp Ile Ser Phe Trp Ile Asn 260 265 270	1115
atg gat gct gca cct gct cgt gtg ggc cta ggc atc acc act gtg ctc Met Asp Ala Ala Pro Ala Arg Val Gly Leu Gly Ile Thr Thr Val Leu 275 280 285	1163
acc atg acc acc cag agc tcc ggc tct cga gca tct ctg ccc aag gtg Thr Met Thr Thr Gln Ser Ser Gly Ser Arg Ala Ser Leu Pro Lys Val 290 295 300 305	1211
tcc tat gtg aaa gcc att gac att tgg atg gca gtt tgc ctg ctc ttt Ser Tyr Val Lys Ala Ile Asp Ile Trp Met Ala Val Cys Leu Leu Phe 310 315 320	1259
gtg ttc tca gcc cta tta gaa tat gct gcc gtt aac ttt gtg tct cgg Val Phe Ser Ala Leu Leu Glu Tyr Ala Ala Val Asn Phe Val Ser Arg 325 330 335	1307
caa cat aag gag ctg ctc cga ttc agg agg aag cgg aga cat cac aag Gln His Lys Glu Leu Leu Arg Phe Arg Arg Lys Arg Arg His His Lys 340 345 350	1355
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ggc cca gcc tgt cta cag gcc aag gat ggc atc tca gtc aag ggc gcc Gly Pro Ala Cys Leu Gln Ala Lys Asp Gly Ile Ser Val Lys Gly Ala 370 375 380 385	1451
aac aac agt aac acc acc aac ccc cct cct gca cca tct aag tcc cca Asn Asn Ser Asn Thr Thr Asn Pro Pro Pro Ala Pro Ser Lys Ser Pro 390 395 400	1499
gag gag atg cga aaa ctc ttc atc cag agg gcc aag aag atc gac aaa Glu Glu Met Arg Lys Leu Phe Ile Gln Arg Ala Lys Lys Ile Asp Lys 405 410 415	1547

ata tcc cgc att ggc ttc ccc atg gcc ttc ctc att ttc aac atg ttc 1595
 Ile Ser Arg Ile Gly Phe Pro Met Ala Phe Leu Ile Phe Asn Met Phe
 420 425 430

tac tgg atc atc tac aag att gtc cgt aga gag gac gtc cac aac cag 1643
 Tyr Trp Ile Ile Tyr Lys Ile Val Arg Arg Glu Asp Val His Asn Gln
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 35 40 45
 Thr Ser Gly Tyr Asp Ala Arg Ile Arg Pro Asn Phe Lys Gly Pro Pro
 50 55 60
 Val Asn Val Ser Cys Asn Ile Phe Ile Asn Ser Phe Gly Ser Ile Ala
 65 70 75 80
 Glu Thr Thr Met Asp Tyr Arg Val Asn Ile Phe Leu Arg Gln Gln Trp
 85 90 95
 Asn Asp Pro Arg Leu Ala Tyr Asn Glu Tyr Pro Asp Asp Ser Leu Asp
 100 105 110
 Leu Asp Pro Ser Met Leu Asp Ser Ile Trp Lys Pro Asp Leu Phe Phe
 115 120 125
 Ala Asn Glu Lys Gly Ala His Phe His Glu Ile Thr Thr Asp Asn Lys
 130 135 140
 Leu Leu Arg Ile Ser Arg Asn Gly Asn Val Leu Tyr Ser Ile Arg Ile
 145 150 155 160
 Thr Leu Thr Leu Ala Cys Pro Met Asp Leu Lys Asn Phe Pro Met Asp
 165 170 175
 Val Gln Thr Cys Ile Met Gln Leu Glu Ser Phe Gly Tyr Thr Met Asn
 180 185 190
 Asp Leu Ile Phe Glu Trp Gln Glu Gln Gly Ala Val Gln Val Ala Asp
 195 200 205
 Gly Leu Thr Leu Pro Gln Phe Ile Leu Lys Glu Glu Lys Asp Leu Arg
 210 215 220
 Tyr Cys Thr Lys His Tyr Asn Thr Gly Lys Phe Thr Cys Ile Glu Ala
 225 230 235 240
 Arg Phe His Leu Glu Arg Gln Met Gly Tyr Tyr Leu Ile Gln Met Tyr
 245 250 255
 Ile Pro Ser Leu Leu Ile Val Ile Leu Ser Trp Ile Ser Phe Trp Ile
 260 265 270
 Asn Met Asp Ala Ala Pro Ala Arg Val Gly Leu Gly Ile Thr Thr Val
 275 280 285
 Leu Thr Met Thr Thr Gln Ser Ser Gly Ser Arg Ala Ser Leu Pro Lys
 290 295 300
 Val Ser Tyr Val Lys Ala Ile Asp Ile Trp Met Ala Val Cys Leu Leu
 305 310 315 320
 Phe Val Phe Ser Ala Leu Leu Glu Tyr Ala Ala Val Asn Phe Val Ser

				325					330					335			
Arg	Gln	His	Lys	Glu	Leu	Leu	Arg	Phe	Arg	Arg	Lys	Arg	Arg	His	His		
			340					345						350			
Lys	Glu	Asp	Glu	Ala	Gly	Glu	Gly	Arg	Phe	Asn	Phe	Ser	Ala	Tyr	Gly		
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Met	Gly	Pro	Ala	Cys	Leu	Gln	Ala	Lys	Asp	Gly	Ile	Ser	Val	Lys	Gly		
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Ala	Asn	Asn	Ser	Asn	Thr	Asn	Pro	Pro	Pro	Pro	Ala	Pro	Ser	Lys	Ser		
385					390				395						400		
Pro	Glu	Glu	Met	Arg	Lys	Leu	Phe	Ile	Gln	Arg	Ala	Lys	Lys	Ile	Asp		
			405					410						415			
Lys	Ile	Ser	Arg	Ile	Gly	Phe	Pro	Met	Ala	Phe	Leu	Ile	Phe	Asn	Met		
		420						425					430				
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Gln																	

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<220>
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 Met Thr Ala Cys Ala Arg Arg Ala Gly Gly Leu Pro
 1 5 10

gac ccc ggg ctc tgc ggt ccc gcg tgg tgg gct ccg tcc ctg ccc cgc 157
 Asp Pro Gly Leu Cys Gly Pro Ala Trp Trp Ala Pro Ser Leu Pro Arg
 15 20 25

ctc ccc cgg gcc ctg ccc cgg ctc ccg ctc ctg ctg ctc ctg ctt ctg 205
 Leu Pro Arg Ala Leu Pro Arg Leu Pro Leu Leu Leu Leu Leu Leu
 30 35 40

ctg cag ccc ccc gcc ctc tcc gcc gtg ttc acg gtg ggg gtc ctg ggc 253
 Leu Gln Pro Pro Ala Leu Ser Ala Val Phe Thr Val Gly Val Leu Gly
 45 50 55 60

ccc tgg gct tgc gac ccc atc ttc tct cgg gct cgc ccg gac ctg gcc 301
 Pro Trp Ala Cys Asp Pro Ile Phe Ser Arg Ala Arg Pro Asp Leu Ala
 65 70 75

gcc cgc ctg gcc gcc gcc cgc ctg aac cgc gac ccc ggc ctg gca ggc 349
 Ala Arg Leu Ala Ala Ala Arg Leu Asn Arg Asp Pro Gly Leu Ala Gly
 80 85 90

ggt ccc cgc ttc gag gta gcg ctg ctg ccc gag cct tgc cgg acg ccg 397
 Gly Pro Arg Phe Glu Val Ala Leu Leu Pro Glu Pro Cys Arg Thr Pro
 95 100 105

ggc tcg ctg ggg gcc gtg tcc tcc gcg ctg gcc cgc gtg tcg ggc ctc 445
 Gly Ser Leu Gly Ala Val Ser Ser Ala Leu Ala Arg Val Ser Gly Leu
 110 115 120

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gcc ccc cag gac ctg tgg gtg gag gcg gga cgc tca ctg tcc acg gca Ala Pro Gln Asp Leu Trp Val Glu Ala Gly Arg Ser Leu Ser Thr Ala 190 195 200	685
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ccc agg gtc aca gca gtg atc atg gtg atg cac tcg gtg ctg ctg ggt Pro Arg Val Thr Ala Val Ile Met Val Met His Ser Val Leu Leu Gly 240 245 250	829
ggc gag gag cag cgc tac ctc ctg gag gcc gca gag gag ctg ggc ctg Gly Glu Glu Gln Arg Tyr Leu Leu Glu Ala Ala Glu Glu Leu Gly Leu 255 260 265	877
acc gat ggc tcc ctg gtc ttc ctg ccc ttc gac acg atc cac tac gcc Thr Asp Gly Ser Leu Val Phe Leu Pro Phe Asp Thr Ile His Tyr Ala 270 275 280	925
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tct gaa ggc agc gtg ctg gac agc ctg cgc agg gct caa gag cgc cgc Ser Glu Gly Ser Val Leu Asp Ser Leu Arg Arg Ala Gln Glu Arg Arg 320 325 330	1069
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Arg Ala Ala Ala Gly Gly Arg Trp Val Ser Gly Ala Ala Val Ala Arg	
365 370 375 380	
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His Ile Arg Asp Ala Gln Val Pro Gly Phe Cys Gly Asp Leu Gly Gly	
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Asp Glu Glu Pro Pro Phe Val Leu Leu Asp Thr Asp Ala Ala Gly Asp	
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cgg ctt ttt gcc aca tac atg ctg gat cct gcc cgg ggc tcc ttc ctc	1357
Arg Leu Phe Ala Thr Tyr Met Leu Asp Pro Ala Arg Gly Ser Phe Leu	
415 420 425	
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Ser Ala Gly Thr Arg Met His Phe Pro Arg Gly Gly Ser Ala Pro Gly	
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cct gac ccc tcg tgc tgg ttc gat cca aac aac atc tgc ggt gga gga	1453
Pro Asp Pro Ser Cys Trp Phe Asp Pro Asn Asn Ile Cys Gly Gly Gly	
445 450 455 460	
ctg gag ccg ggc ctc gtc ttt ctt ggc ttc ctc ctg gtg gtt ggg atg	1501
Leu Glu Pro Gly Leu Val Phe Leu Gly Phe Leu Leu Val Val Gly Met	
465 470 475	
ggg ctg gct ggg gcc ttc ctg gcc cat tat gtg agg cac cgg cta ctt	1549
Gly Leu Ala Gly Ala Phe Leu Ala His Tyr Val Arg His Arg Leu Leu	
480 485 490	
cac atg caa atg gtc tcc ggc ccc aac aag atc atc ctg acc gtg gac	1597
His Met Gln Met Val Ser Gly Pro Asn Lys Ile Ile Leu Thr Val Asp	
495 500 505	
gac atc acc ttt ctc cac cca cat ggg ggc acc tct cga aag gtg gcc	1645
Asp Ile Thr Phe Leu His Pro His Gly Gly Thr Ser Arg Lys Val Ala	
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Gln Gly Ser Arg Ser Ser Leu Gly Ala Arg Ser Met Ser Asp Ile Arg	
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Ser Gly Pro Ser Gln His Leu Asp Ser Pro Asn Ile Gly Val Tyr Glu	
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Gly Asp Arg Val Trp Leu Lys Lys Phe Pro Gly Asp Gln His Ile Ala	
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Ile Arg Pro Ala Thr Lys Thr Ala Phe Ser Lys Leu Gln Glu Leu Arg	
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cat gag aac gtg gcc ctc tac ctg ggg ctt ttc ctg gct cgg gga gca	1885
His Glu Asn Val Ala Leu Tyr Leu Gly Leu Phe Leu Ala Arg Gly Ala	
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gaa ggc cct gcg gcc ctc tgg gag ggc aac ctg gct gtg gtc tca gag	1933

Glu 605	Gly	Pro	Ala	Ala	Leu 610	Trp	Glu	Gly	Asn 615	Leu	Ala	Val	Val	Ser	Glu 620	
cac His	tgc Cys	acg Thr	cgg Arg	ggc Gly	tct Ser	ctt Leu	cag Gln	gac Asp	ctc Leu	ctc Leu	gct Ala	cag Gln	aga Arg	gaa Glu	ata Ile	1981
aag Lys	ctg Leu	gac Asp	tgg Trp	atg Met	ttc Phe	aag Lys	tcc Ser	tcc Ser	ctc Leu	ctg Leu	ctg Leu	gac Asp	ctt Leu	atc Ile	aag Lys	2029
gga Gly	ata Ile	agg Arg	tat Tyr	ctg Leu	cac His	cat His	cga Arg	ggc Gly	gtg Val	gct Ala	cat His	ggg Gly	cgg Arg	ctg Leu	aag Lys	2077
tca Ser	cgg Arg	aac Asn	tgc Cys	ata Ile	gtg Val	gat Asp	ggc Gly	aga Arg	ttc Phe	gta Val	ctc Leu	aag Lys	atc Ile	act Thr	gac Asp	2125
cac His	ggc Gly	cac His	ggg Gly	aga Arg	ctg Leu	ctg Leu	gaa Glu	gca Ala	cag Gln	aag Lys	gtg Val	cta Leu	ccg Pro	gag Glu	cct Pro	2173
ccc Pro	aga Arg	gcg Ala	gag Glu	gac Asp	cag Gln	ctg Leu	tgg Trp	aca Thr	gcc Ala	ccg Pro	gag Glu	ctg Leu	ctt Leu	agg Arg	gac Asp	2221
cca Pro	gcc Ala	ctg Leu	gag Glu	cgc Arg	cgg Arg	gga Gly	acg Thr	ctg Leu	gcc Ala	ggc Gly	gac Asp	gtc Val	ttt Phe	agc Ser	ttg Leu	2269
gcc Ala	atc Ile	atc Ile	atg Met	caa Gln	gaa Glu	gta Val	gtg Val	tgc Cys	cgc Arg	agt Ser	gcc Ala	cct Pro	tat Tyr	gcc Ala	atg Met	2317
ctg Leu	gag Glu	ctc Leu	act Thr	ccc Pro	gag Glu	gaa Glu	gtg Val	gtg Val	cag Gln	agg Arg	gtg Val	cgg Arg	agc Ser	ccc Pro	cct Pro	2365
cca Pro	ctg Leu	tgt Cys	cgg Arg	ccc Pro	ttg Leu	gtg Val	tcc Ser	atg Met	gac Asp	cag Gln	gca Ala	cct Pro	gtc Val	gag Glu	tgt Cys	2413
atc Ile	ctc Leu	ctg Leu	atg Met	aag Lys	cag Gln	tgc Cys	tgg Trp	gca Ala	gag Glu	cag Gln	ccg Pro	gaa Glu	ctt Leu	cgg Arg	ccc Pro	2461
tcc Ser	atg Met	gac Asp	cac His	acc Thr	ttc Phe	gac Asp	ctg Leu	ttc Phe	aag Lys	aac Asn	atc Ile	aac Asn	aag Lys	ggc Gly	cgg Arg	2509
aag Lys	acg Thr	aac Asn	atc Ile	att Ile	gac Asp	tcg Ser	atg Met	ctt Leu	cgg Arg	atg Met	ctg Leu	gag Glu	cag Gln	tac Tyr	tct Ser	2557
agt Ser	aac Asn	ctg Leu	gag Glu	gat Asp	ctg Leu	atc Ile	cgg Arg	gag Glu	cgc Arg	acg Thr	gag Glu	gag Glu	ctg Leu	gag Glu	ctg Leu	2605
gaa Glu	aag Lys	cag Gln	aag Lys	aca Thr	gac Asp	cgg Arg	ctg Leu	ctt Leu	aca Thr	cag Gln	atg Met	ctg Leu	cct Pro	ccg Pro	tct Ser	2653

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Glu Gln Val Thr Leu Tyr Phe Ser Asp Ile Val Gly Phe Thr Thr Ile							
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Ser Ala Met Ser Glu Pro Ile Glu Val Val Asp Leu Leu Asn Asp Leu							
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Tyr Thr Leu Phe Asp Ala Ile Ile Gly Ser His Asp Val Tyr Lys Val							
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Glu Thr Ile Gly Asp Ala Tyr Met Val Ala Ser Gly Leu Pro Gln Arg							
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Asn Gly Gln Arg His Ala Ala Glu Ile Ala Asn Met Ser Leu Asp Ile							
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Leu Ser Ala Val Gly Thr Phe Arg Met Arg His Met Pro Glu Val Pro							
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Val Arg Ile Arg Ile Gly Leu His Ser Gly Pro Cys Val Ala Gly Val							
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Val Gly Leu Thr Met Pro Arg Tyr Cys Leu Phe Gly Asp Thr Val Asn							
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acc gcc tcg cgc atg gag tcc acc ggg ctg cct tac cgc atc cac gtg	3133						
Thr Ala Ser Arg Met Glu Ser Thr Gly Leu Pro Tyr Arg Ile His Val							
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aac ttg agc act gtg ggg att ctc cgt gct ctg gac tcg ggc tac cag	3181						
Asn Leu Ser Thr Val Gly Ile Leu Arg Ala Leu Asp Ser Gly Tyr Gln							
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gtg gag ctg cga ggc cgc acg gag ctg aag ggc aag ggc gcc gag gac	3229						
Val Glu Leu Arg Gly Arg Thr Glu Leu Lys Gly Lys Gly Ala Glu Asp							
		1040		1045		1050	
act ttc tgg cta gtg ggc aga cgc ggc ttc aac aag ccc atc ccc aaa	3277						
Thr Phe Trp Leu Val Gly Arg Arg Gly Phe Asn Lys Pro Ile Pro Lys							
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ccg cct gac ctg caa ccg ggg tcc agc aac cac ggc atc agc ctg cag	3325						
Pro Pro Asp Leu Gln Pro Gly Ser Ser Asn His Gly Ile Ser Leu Gln							
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gag atc cca ccc gag cgg cga cgg aag ctg gag aag gcg cgg ccg ggc	3373						
Glu Ile Pro Pro Glu Arg Arg Arg Lys Leu Glu Lys Ala Arg Pro Gly							

1085 1090 1095 1100

cag ttc tct tga gaagtgaggc cgggccccgg acaggggtctg ggccctgctc 3425

Gln Phe Ser *

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<213> Homo sapiens

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Leu	Pro	Arg	Leu	Pro	Leu	Leu	Leu	Leu	Leu	Leu	Leu	Leu	Gln	Pro	Pro
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Asp	Pro	Ile	Phe	Ser	Arg	Ala	Arg	Pro	Asp	Leu	Ala	Ala	Arg	Leu	Ala
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Ala	Ala	Arg	Leu	Asn	Arg	Asp	Pro	Gly	Leu	Ala	Gly	Gly	Pro	Arg	Phe
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Glu	Val	Ala	Leu	Leu	Pro	Glu	Pro	Cys	Arg	Thr	Pro	Gly	Ser	Leu	Gly
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Ala	Val	Ser	Ala	Leu	Ala	Arg	Val	Ser	Gly	Leu	Val	Gly	Pro	Val	
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Asn	Pro	Ala	Ala	Cys	Arg	Pro	Ala	Glu	Leu	Leu	Ala	Glu	Glu	Ala	Gly
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Ile	Ala	Leu	Val	Pro	Trp	Gly	Cys	Pro	Trp	Thr	Gln	Ala	Glu	Gly	Thr
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Thr	Ala	Pro	Ala	Val	Thr	Pro	Ala	Ala	Asp	Ala	Leu	Tyr	Ala	Leu	Leu
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Arg	Ala	Phe	Gly	Trp	Ala	Arg	Val	Ala	Leu	Val	Thr	Ala	Pro	Gln	Asp
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Leu	Trp	Val	Glu	Ala	Gly	Arg	Ser	Leu	Ser	Thr	Ala	Leu	Arg	Ala	Arg
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Gly	Leu	Pro	Val	Ala	Ser	Val	Thr	Ser	Met	Glu	Pro	Leu	Asp	Leu	Ser
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Gly	Ala	Arg	Glu	Ala	Leu	Arg	Lys	Val	Arg	Asp	Gly	Pro	Arg	Val	Thr
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Ala	Val	Ile	Met	Val	Met	His	Ser	Val	Leu	Leu	Gly	Gly	Glu	Glu	Gln
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Arg	Tyr	Leu	Leu	Glu	Ala	Ala	Glu	Glu	Leu	Gly	Leu	Thr	Asp	Gly	Ser
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Leu	Val	Phe	Leu	Pro	Phe	Asp	Thr	Ile	His	Tyr	Ala	Leu	Ser	Pro	Gly
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Pro	Glu	Ala	Leu	Ala	Ala	Leu	Ala	Asn	Ser	Ser	Gln	Leu	Arg	Arg	Ala
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Val	Leu	Asp	Ser	Leu	Arg	Arg	Ala	Gln	Glu	Arg	Arg	Glu	Leu	Pro	Ser
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Ala	Gln	Val	Pro	Gly	Phe	Cys	Gly	Asp	Leu	Gly	Gly	Asp	Glu	Glu	Pro
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Pro	Phe	Val	Leu	Leu	Asp	Thr	Asp	Ala	Ala	Gly	Asp	Arg	Leu	Phe	Ala
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Thr	Tyr	Met	Leu	Asp	Pro	Ala	Arg	Gly	Ser	Phe	Leu	Ser	Ala	Gly	Thr
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Arg	Met	His	Phe	Pro	Arg	Gly	Gly	Ser	Ala	Pro	Gly	Pro	Asp	Pro	Ser
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Cys	Trp	Phe	Asp	Pro	Asn	Asn	Ile	Cys	Gly	Gly	Gly	Leu	Glu	Pro	Gly
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Leu	Val	Phe	Leu	Gly	Phe	Leu	Leu	Val	Val	Gly	Met	Gly	Leu	Ala	Gly
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Ala	Phe	Leu	Ala	His	Tyr	Val	Arg	His	Arg	Leu	Leu	His	Met	Gln	Met
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Ser	Ser	Leu	Gly	Ala	Arg	Ser	Met	Ser	Asp	Ile	Arg	Ser	Gly	Pro	Ser
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Gln	His	Leu	Asp	Ser	Pro	Asn	Ile	Gly	Val	Tyr	Glu	Gly	Asp	Arg	Val
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Trp	Leu	Lys	Lys	Phe	Pro	Gly	Asp	Gln	His	Ile	Ala	Ile	Arg	Pro	Ala
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Thr	Lys	Thr	Ala	Phe	Ser	Lys	Leu	Gln	Glu	Leu	Arg	His	Glu	Asn	Val
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Arg	Arg	Gly	Thr	Leu	Ala	Gly	Asp	Val	Phe	Ser	Leu	Ala	Ile	Ile	Met
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Pro	Glu	Glu	Val	Val	Gln	Arg	Val	Arg	Ser	Pro	Pro	Pro	Leu	Cys	Arg
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Pro	Leu	Val	Ser	Met	Asp	Gln	Ala	Pro	Val	Glu	Cys	Ile	Leu	Leu	Met
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Lys	Gln	Cys	Trp	Ala	Glu	Gln	Pro	Glu	Leu	Arg	Pro	Ser	Met	Asp	His
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Thr	Phe	Asp	Leu	Phe	Lys	Asn	Ile	Asn	Lys	Gly	Arg	Lys	Thr	Asn	Ile
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Thr	Asp	Arg	Leu	Leu	Thr	Gln	Met	Leu	Pro	Pro	Ser	Val	Ala	Glu	Ala
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Leu	Tyr	Phe	Ser	Asp	Ile	Val	Gly	Phe	Thr	Thr	Ile	Ser	Ala	Met	Ser
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Glu	Pro	Ile	Glu	Val	Val	Asp	Leu	Leu	Asn	Asp	Leu	Tyr	Thr	Leu	Phe
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Gly	Arg	Thr	Glu	Leu	Lys	Gly	Lys	Gly	Ala	Glu	Asp	Thr	Phe	Trp	Leu
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Leu	Val	Ile	Asn	Ile	Ser	Gly	Leu	Arg	Phe	Glu	Thr	Gln	Leu	Arg	Thr	
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Arg	Phe	Phe	Asp	Pro	Leu	Arg	Asn	Glu	Tyr	Phe	Phe	Asp	Arg	Asn	Arg	
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Pro	Ser	Phe	Asp	Ala	Ile	Leu	Tyr	Tyr	Tyr	Gln	Ser	Gly	Gly	Arg	Leu	
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Arg	Arg	Pro	Val	Asn	Val	Pro	Leu	Asp	Ile	Phe	Leu	Glu	Glu	Ile	Arg	
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Phe	Tyr	Gln	Leu	Gly	Asp	Glu	Ala	Leu	Ala	Ala	Phe	Arg	Glu	Asp	Glu	
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Gly	Cys	Leu	Pro	Glu	Gly	Gly	Glu	Asp	Glu	Lys	Pro	Leu	Pro	Ser	Gln	
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Pro	Phe	Gln	Arg	Gln	Val	Trp	Leu	Leu	Phe	Glu	Tyr	Pro	Glu	Ser	Ser	
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Gly	Pro	Ala	Arg	Gly	Ile	Ala	Ile	Val	Ser	Val	Leu	Val	Ile	Leu	Ile	
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Ser	Ile	Val	Ile	Phe	Cys	Leu	Glu	Thr	Leu	Pro	Gln	Phe	Arg	Val	Asp	
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His His Gly Ile Thr Pro Gly Glu Met Gly Thr Gly Gly Ser Ser Ser	
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Leu Ser Thr Leu Gly Gly Ser Phe Phe Thr Asp Pro Phe Phe Leu Val	
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Asn Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg Leu	
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Gln Ile Leu Gly Lys Thr Leu Gln Ala Ser Met Arg Glu Leu Gly Leu	
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415 420 425	
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Asp Met Tyr Pro Met Thr Val Gly Gly Lys Ile Val Gly Ser Leu Cys	
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Ala Ile Ala Gly Val Leu Thr Ile Ala Leu Pro Val Pro Val Ile Val	
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Ser Asn Phe Asn Tyr Phe Tyr His Arg Glu Thr Glu Gln Glu Glu Gln	
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Lys Arg Met Leu Thr Glu Val *
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Thr Leu Leu Gly Asp Pro Gly Arg Arg Val Arg Phe Phe Asp Pro Leu

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Pro	Leu	Asp	Ile	Phe	Leu	Glu	Glu	Ile	Arg	Phe	Tyr	Gln	Leu	Gly
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Pro	Ala	Phe	Phe	Arg	Asn	Ile	Met	Asn	Ile	Ile	Asp	Leu	Val	Ala
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Phe	Pro	Tyr	Phe	Ile	Thr	Leu	Gly	Thr	Glu	Leu	Val	Gln	Gln	Gln
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Gln	Gln	Pro	Ala	Ser	Gly	Gly	Gly	Gly	Gln	Asn	Gly	Gln	Gln	Ala
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Ser	Leu	Ala	Ile	Leu	Arg	Val	Ile	Arg	Leu	Val	Arg	Val	Phe	Arg
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Phe	Lys	Leu	Ser	Arg	His	Ser	Lys	Gly	Leu	Gln	Ile	Leu	Gly	Lys
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Leu	Gln	Ala	Ser	Met	Arg	Glu	Leu	Gly	Leu	Leu	Ile	Phe	Phe	Leu
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Asp	Asp	Asp	Ser	Leu	Phe	Pro	Ser	Ile	Pro	Asp	Ala	Phe	Trp	Trp
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Val	Val	Thr	Met	Thr	Thr	Val	Gly	Tyr	Gly	Asp	Met	Tyr	Pro	Met
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Val	Gly	Gly	Lys	Ile	Val	Gly	Ser	Leu	Cys	Ala	Ile	Ala	Gly	Val
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Thr	Ile	Ala	Leu	Pro	Val	Pro	Val	Ile	Val	Ser	Asn	Phe	Asn	Tyr
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Thr	Cys	Gly	Gln	Pro	Ala	Pro	Asp	Leu	Arg	Ala	Thr	Asp	Asn	Gly
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Gly	Lys	Pro	Asp	Phe	Pro	Glu	Ala	Asn	Arg	Glu	Arg	Arg	Pro	Ser
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 Arg Ser Phe Met Arg Leu Asn Asp Leu Ser Gly Ala Gly Gly Arg Pro
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 Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
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 Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
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agc cag gac agc cgc ccg cgg agc tgg tgt ctc cgc acg gtc tgt aac 240
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ccc tgg ttt gag cgc atc agc atg ttg gtc atc ctt ctc aac tgc gtg 288
 Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
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acc ctg ggc atg ttc cgg cca tgc gag gac atc gcc tgt gac tcc cag 336
 Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
 100 105 110

cgc tgc cgg atc ctg cag gcc ttt gat gac ttc atc ttt gcc ttc ttt 384
 Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
 115 120 125

gcc gtg gag atg gtg gtg aag atg gtg gcc ttg ggc atc ttt ggg aaa 432
 Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
 130 135 140

aag tgt tac ctg gga gac act tgg aac cgg ctt gac ttt ttc atc gtc 480
 Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
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 Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
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 Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
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ttc ggc atc gtc ggc gtc cag ctg tgg gca ggg ctg ctt cgg aac cga Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg 225 230 235 240			720
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cgc tat tac cag aca gag aac gag gat gag agc ccc ttc atc tgc tcc Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser 260 265 270			816
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515	520	525	
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aca ggt gcc tgc caa agc tct tgc aag atc tcc agc cct tgc ttg aaa Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys			1968
645	650	655	
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675	680	685	

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Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn	
850 855 860	
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Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser	
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Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp	
885 890 895	
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Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala	
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915 920 925	

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Ile His Thr Ala Ala Thr Pro Met Ser Leu Pro Lys Ser Thr Ser Thr	
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Gly Leu Gly Glu Ala Leu Gly Pro Ala Ser Arg Arg Thr Ser Ser Ser	
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Gly Ser Ala Glu Pro Gly Ala Ala His Glu Met Lys Ser Pro Pro Ser	
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Ala Arg Ser Ser Pro His Ser Pro Trp Ser Ala Ala Ser Ser Trp Thr	
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Ser Arg Arg Ser Ser Arg Asn Ser Leu Gly Arg Ala Pro Ser Leu Lys	
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Arg Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu Leu Ser Gly Glu Gly	
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Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu Glu Glu Arg Ala Ser	
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Pro Ala Gly Ser Asp His Arg His Arg Gly Ser Leu Glu Arg Glu Ala	
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Gly	Lys	Ser	Ala	Ser	Gly	Arg	Leu	Ala	Arg	Ala	Leu	Arg	Pro	Asp	Asp		
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Pro	Pro	Leu	Asp	Gly	Asp	Asp	Ala	Asp	Asp	Glu	Gly	Asn	Leu	Ser	Lys		
			1220					1225					1230				
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Gly	Glu	Arg	Val	Arg	Ala	Trp	Ile	Arg	Ala	Arg	Leu	Pro	Ala	Cys	Cys		
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ctc	gag	cga	gac	tcc	tgg	tca	gcc	tac	atc	ttc	cct	cct	cag	tcc	agg	3792	
Leu	Glu	Arg	Asp	Ser	Trp	Ser	Ala	Tyr	Ile	Phe	Pro	Pro	Gln	Ser	Arg		
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ttc	cgc	ctc	ctg	tgt	cac	cgg	atc	atc	acc	cac	aag	atg	ttc	gac	cac	3840	
Phe	Arg	Leu	Leu	Cys	His	Arg	Ile	Ile	Thr	His	Lys	Met	Phe	Asp	His		
1265					1270					1275					1280		
gtg	gtc	ctt	gtc	atc	atc	ttc	ctt	aac	tgc	atc	acc	atc	gcc	atg	gag	3888	
Val	Val	Leu	Val	Ile	Ile	Phe	Leu	Asn	Cys	Ile	Thr	Ile	Ala	Met	Glu		
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Arg	Pro	Lys	Ile	Asp	Pro	His	Ser	Ala	Glu	Arg	Ile	Phe	Leu	Thr	Leu		
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Ser	Asn	Tyr	Ile	Phe	Thr	Ala	Val	Phe	Leu	Ala	Glu	Met	Thr	Val	Lys		
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gtg	gtg	gca	ctg	ggc	tgg	tgc	ttc	ggg	gag	cag	gcg	tac	ctg	cgg	agc	4032	
Val	Val	Ala	Leu	Gly	Trp	Cys	Phe	Gly	Glu	Gln	Ala	Tyr	Leu	Arg	Ser		
		1330				1335					1340						
agt	tgg	aac	gtg	ctg	gac	ggg	ctg	ttg	gtg	ctc	atc	tcc	gtc	atc	gac	4080	
Ser	Trp	Asn	Val	Leu	Asp	Gly	Leu	Leu	Val	Leu	Ile	Ser	Val	Ile	Asp		
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Ile	Leu	Val	Ser	Met	Val	Ser	Asp	Ser	Gly	Thr	Lys	Ile	Leu	Gly	Met		
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ctg	agg	gtg	ctg	cgg	ctg	ctg	cgg	acc	ctg	cgc	ccg	ctc	agg	gtg	atc	4176	
Leu	Arg	Val	Leu	Arg	Leu	Leu	Arg	Thr	Leu	Arg	Pro	Leu	Arg	Val	Ile		
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Ser	Arg	Ala	Gln	Gly	Leu	Lys	Leu	Val	Val	Glu	Thr	Leu	Met	Ser	Ser		
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Leu	Lys	Pro	Ile	Gly	Asn	Ile	Val	Val	Ile	Cys	Cys	Ala	Phe	Phe	Ile		

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Ile Phe Gly Ile Leu Gly Val Gln Leu Phe Lys Gly Lys Phe Phe Val			
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Cys Gln Gly Glu Asp Thr Arg Asn Ile Thr Asn Lys Ser Asp Cys Ala			
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Glu Ala Ser Tyr Arg Trp Val Arg His Lys Tyr Asn Phe Asp Asn Leu			
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Gly Gln Ala Leu Met Ser Leu Phe Val Leu Ala Ser Lys Asp Gly Trp			
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Val Asp Ile Met Tyr Asp Gly Leu Asp Ala Val Gly Val Asp Gln Gln			
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Pro Ile Met Asn His Asn Pro Trp Met Leu Leu Tyr Phe Ile Ser Phe			
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Leu Leu Ile Val Ala Phe Phe Val Leu Asn Met Phe Val Gly Val Val			
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Val Glu Asn Phe His Lys Cys Arg Gln His Gln Glu Glu Glu Ala			
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Asn Leu Met Leu Asp Asp Val Ile Ala Ser Gly Ser Ser Ala Ser Ala			
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Arg Leu Leu Val His His Leu Cys Thr Ser His Tyr Leu Asp Leu Phe			
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Ile Thr Gly Val Ile Gly Leu Asn Val Val Thr Met Ala Met Glu His			
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Tyr Gln Gln Pro Gln Ile Leu Asp Glu Ala Leu Lys Ile Cys Asn Tyr			
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Ile Phe Thr Val Ile Phe Val Leu Glu Ser Val Phe Lys Leu Val Ala			

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Phe Gly Phe Arg Arg Phe Phe Gln Asp Arg Trp Asn Gln Leu Asp Leu			
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Ala Ile Val Leu Leu Ser Ile Met Gly Ile Thr Leu Glu Glu Ile Glu			
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Val Asn Ala Ser Leu Pro Ile Asn Pro Thr Ile Ile Arg Ile Met Arg			
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Val Leu Arg Ile Ala Arg Val Leu Lys Leu Leu Lys Met Ala Val Gly			
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Met Arg Ala Leu Leu Asp Thr Val Met Gln Ala Leu Pro Gln Val Gly			
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Asn Leu Gly Leu Leu Phe Met Leu Leu Phe Phe Ile Phe Ala Ala Leu			
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Glu Gly Leu Gly Arg His Ala Thr Phe Arg Asn Phe Gly Met Ala Phe			
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Leu Thr Leu Phe Arg Val Ser Thr Gly Asp Asn Trp Asn Gly Ile Met			
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Lys Asp Thr Leu Arg Asp Cys Asp Gln Glu Ser Thr Cys Tyr Asn Thr			
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Val Leu Val Asn Val Val Ile Ala Val Leu Met Lys His Leu Glu Glu			
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Ser Asn Lys Glu Ala Lys Glu Glu Ala Glu Leu Glu Ala Glu Leu Glu			
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Leu Glu Met Lys Thr Leu Ser Pro Gln Pro His Ser Pro Leu Gly Ser			
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Pro Phe Leu Trp Pro Gly Val Glu Gly Pro Asp Ser Pro Asp Ser Pro			

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ttt tcc ctg gag cac ccc acg gac agg cag ctg Phe Ser Leu Glu His Pro Thr Asp Arg 1925	ctg ttt gac acc ata tcc Leu Phe Asp Thr Ile Ser 1930	5808	
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Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
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Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
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Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
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Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
145 150 155 160
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Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
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Asp	Ser	Glu	Ala	Val	Tyr	Glu	Phe	Thr	Gln	Asp	Ala	Gln	His	Ser	Asp
	690					695					700				
Leu	Arg	Asp	Pro	His	Ser	Arg	Arg	Gln	Arg	Ser	Leu	Gly	Pro	Asp	Ala
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Glu	Pro	Ser	Ser	Val	Leu	Ala	Phe	Trp	Arg	Leu	Ile	Cys	Asp	Thr	Phe
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Arg	Lys	Ile	Val	Asp	Ser	Lys	Tyr	Phe	Gly	Arg	Gly	Ile	Met	Ile	Ala
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Ile	Leu	Val	Asn	Thr	Leu	Ser	Met	Gly	Ile	Glu	Tyr	His	Glu	Gln	Pro
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	770					775					780				
Leu	Phe	Ala	Leu	Glu	Met	Leu	Leu	Lys	Leu	Leu	Val	Tyr	Gly	Pro	Phe
785					790					795					800
Gly	Tyr	Ile	Lys	Asn	Pro	Tyr	Asn	Ile	Phe	Asp	Gly	Val	Ile	Val	Val
				805					810					815	
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			820					825					830		
Leu	Arg	Thr	Phe	Arg	Leu	Met	Arg	Val	Leu	Lys	Leu	Val	Arg	Phe	Leu

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Ile Leu Val Ser Met Val Ser Asp Ser Gly Thr Lys Ile Leu Gly Met
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Cys Gln Gly Glu Asp Thr Arg Asn Ile Thr Asn Lys Ser Asp Cys Ala
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Gly Gln Ala Leu Met Ser Leu Phe Val Leu Ala Ser Lys Asp Gly Trp
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Val Asp Ile Met Tyr Asp Gly Leu Asp Ala Val Gly Val Asp Gln Gln
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Pro Ile Met Asn His Asn Pro Trp Met Leu Leu Tyr Phe Ile Ser Phe
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Ala Ser Glu Ala Gln Cys Lys Pro Tyr Tyr Ser Asp Tyr Ser Arg Phe
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Arg Leu Leu Val His His Leu Cys Thr Ser His Tyr Leu Asp Leu Phe
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Ile Thr Gly Val Ile Gly Leu Asn Val Val Thr Met Ala Met Glu His
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Tyr Gln Gln Pro Gln Ile Leu Asp Glu Ala Leu Lys Ile Cys Asn Tyr
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Phe Gly Phe Arg Arg Phe Phe Gln Asp Arg Trp Asn Gln Leu Asp Leu
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Ala Ile Val Leu Leu Ser Ile Met Gly Ile Thr Leu Glu Glu Ile Glu
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Val Asn Ala Ser Leu Pro Ile Asn Pro Thr Ile Ile Arg Ile Met Arg
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Gly Val Glu Leu Phe Gly Asp Leu Glu Cys Asp Glu Thr His Pro Cys
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Glu Gly Leu Gly Arg His Ala Thr Phe Arg Asn Phe Gly Met Ala Phe
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Leu Thr Leu Phe Arg Val Ser Thr Gly Asp Asn Trp Asn Gly Ile Met
1795 1800 1805
Lys Asp Thr Leu Arg Asp Cys Asp Gln Glu Ser Thr Cys Tyr Asn Thr

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Val Leu Val Asn Val Val	Ile Ala Val Leu Met Lys His	Leu Glu Glu
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Ser Asn Lys Glu Ala Lys	Glu Glu Ala Glu Leu Glu	Ala Glu Leu Glu
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Leu Glu Met Lys Thr Leu	Ser Pro Gln Pro His Ser	Pro Leu Gly Ser
1875	1880	1885
Pro Phe Leu Trp Pro Gly	Val Glu Gly Pro Asp Ser	Pro Asp Ser Pro
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Lys Pro Gly Ala Leu His	Pro Ala Ala His Ala Arg	Ser Ala Ser His
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Phe Ser Leu Glu His Pro	Thr Asp Arg Gln Leu Phe	Asp Thr Ile Ser
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1955	1960	1965
Leu Gly Gly Ser Asp Pro	Gln Ile Pro Leu Ala Glu	Met Glu Ala Leu
1970	1975	1980
Ser Leu Thr Ser Glu Ile	Val Ser Glu Pro Ser Cys	Ser Leu Ala Leu
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Thr Asp Asp Ser Leu Pro	Asp Asp Met His Thr Leu	Leu Leu Ser Ala
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Leu Glu Ser Asn Met Gln	Pro His Pro Thr Glu Leu	Pro Gly Pro Asp
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Leu Leu Thr Val Arg Lys	Ser Gly Val Ser Arg Thr	His Ser Leu Pro
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Gly His Arg Gly Trp Gly	Leu Pro Lys Ala Gln Ser	Gly Ser Val Leu
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Ser Val His Ser Gln Pro	Ala Asp Thr Ser Tyr Ile	Leu Gln Leu Pro
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Lys Asp Ala Pro His Leu	Leu Gln Pro His Ser Ala	Pro Thr Trp Gly
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Thr Ile Pro Lys Leu Pro	Pro Pro Gly Arg Ser Pro	Leu Ala Gln Arg
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Pro Leu Arg Arg Gln Ala	Ala Ile Arg Thr Asp Ser	Leu Asp Val Gln
2130	2135	2140
Gly Leu Gly Ser Arg Glu	Asp Leu Leu Ala Glu Val	Ser Gly Pro Ser
2145	2150	2155
Pro Pro Leu Ala Arg Ala	Tyr Ser Phe Trp Gly Gln	Ser Ser Thr Gln
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Ala Gln Gln His Ser Arg	Ser His Ser Lys Ile Ser	Lys His Met Thr
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Pro Pro Ala Pro Cys Pro	Gly Pro Glu Pro Asn Trp	Gly Lys Gly Pro
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Pro Glu Thr Arg Ser Ser	Leu Glu Leu Asp Thr Glu	Leu Ser Trp Ile
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Ser Gly Asp Leu Leu Pro	Pro Gly Gly Gln Glu Glu	Pro Pro Ser Pro
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Arg Asp Leu Lys Lys Cys	Tyr Ser Val Glu Ala Gln	Ser Cys Gln Arg
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Arg Pro Thr Ser Trp Leu	Asp Glu Gln Arg Arg His	Ser Ile Ala Val
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Ser Cys Leu Asp Ser Gly	Ser Gln Pro His Leu Gly	Thr Asp Pro Ser
2275	2280	2285
Asn Leu Gly Gly Gln Pro	Leu Gly Gly Pro Gly Ser	Arg Pro Lys Lys
2290	2295	2300

Lys Leu Ser Pro Pro Ser Ile Thr Ile Asp Pro Pro Glu Ser Gln Gly
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 Val Ser Arg Thr Ser Gly Glu Val Glu Val Leu Asp Pro Asn Asp Pro
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 Leu Gly Pro Leu Asp Gly Gln Asp Gly Pro Ile Pro Thr Leu Lys Gly
 45 50 55

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 Tyr Phe Leu Asn Phe Leu Glu Pro Val Asn Asn Ile Thr Ile Val Gln
 60 65 70 75

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 Asn Val Arg Trp Leu Lys Asn Asp Ala Pro Val Val Gln Glu Pro Arg
 95 100 105

 cgg atc atc atc cgg aag aca gaa tat ggt tca cga ctg cga atc cag 568
 Arg Ile Ile Ile Arg Lys Thr Glu Tyr Gly Ser Arg Leu Arg Ile Gln
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Pro	Arg	Asp	Ser	Ser	Lys	Met	Gly	Ile	Leu	Tyr	Ile	Leu	Val	Pro	Ser		
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Ile	Ala	Ile	Pro	Leu	Val	Ile	Ala	Cys	Leu	Phe	Phe	Leu	Val	Cys	Met		
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tgc	cgg	aat	aag	cag	aag	gca	tct	gcg	tcc	aca	ccg	cag	cgg	cga	cag	1528	
Cys	Arg	Asn	Lys	Gln	Lys	Ala	Ser	Ala	Ser	Thr	Pro	Gln	Arg	Arg	Gln		
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Leu	Met	Ala	Ser	Pro	Ser	Gln	Asp	Met	Glu	Met	Pro	Leu	Ile	Asn	Gln		
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cac	aaa	cag	gcc	aaa	ctc	aaa	gag	atc	agc	ctg	tct	gcg	gtg	agg	ttc	1624	
His	Lys	Gln	Ala	Lys	Leu	Lys	Glu	Ile	Ser	Leu	Ser	Ala	Val	Arg	Phe		
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Met	Glu	Glu	Leu	Gly	Glu	Asp	Arg	Phe	Gly	Lys	Val	Tyr	Lys	Gly	His		
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Leu	Phe	Gly	Pro	Ala	Pro	Gly	Glu	Gln	Thr	Gln	Ala	Val	Ala	Ile	Lys		
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Thr	Leu	Lys	Asp	Lys	Ala	Glu	Gly	Pro	Leu	Arg	Glu	Glu	Phe	Arg	His		
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Glu	Ala	Met	Leu	Arg	Ala	Arg	Leu	Gln	His	Pro	Asn	Val	Val	Cys	Leu		
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Cys	Ser	His	Gly	Asp	Leu	His	Glu	Phe	Leu	Val	Met	Arg	Ser	Pro	His		
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Glu	Tyr	Leu	Ser	Ser	His	His	Val	Val	His	Lys	Asp	Leu	Ala	Thr	Arg		
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Lys	Phe	Ser	Ile	Asp	Ser	Asp	Ile	Trp	Ser	Tyr	Gly	Val	Val	Leu	Trp		
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Glu	Val	Phe	Ser	Tyr	Gly	Leu	Gln	Pro	Tyr	Cys	Gly	Tyr	Ser	Asn	Gln		
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Asp	Val	Val	Glu	Met	Ile	Arg	Asn	Arg	Gln	Val	Leu	Pro	Cys	Pro	Asp		
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Phe	Pro	Ser	Arg	Arg	Pro	Arg	Phe	Lys	Asp	Ile	His	Ser	Arg	Leu	Arg		
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 c 4092

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 35 40 45
 Gly Gln Asp Gly Pro Ile Pro Thr Leu Lys Gly Tyr Phe Leu Asn Phe
 50 55 60
 Leu Glu Pro Val Asn Asn Ile Thr Ile Val Gln Gly Gln Thr Ala Ile
 65 70 75 80
 Leu His Cys Lys Val Ala Gly Asn Pro Pro Pro Asn Val Arg Trp Leu
 85 90 95

Lys	Asn	Asp	Ala	Pro	Val	Val	Gln	Glu	Pro	Arg	Arg	Ile	Ile	Ile	Arg
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Asp	Thr	Gly	Tyr	Tyr	Gln	Cys	Val	Ala	Thr	Asn	Gly	Met	Lys	Thr	Ile
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Asn	His	Asn	Phe	Gln	Asp	Asp	Tyr	His	Glu	Asp	Gly	Phe	Cys	Gln	Pro
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Val	Asp	Ser	Leu	Gln	Met	Gln	Gly	Glu	Ile	Glu	Asn	Arg	Ile	Thr	Ala
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Ala	Arg	Ser	Arg	Ala	Pro	Lys	Pro	Arg	Glu	Leu	Cys	Arg	Asp	Glu	Cys
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Glu	Val	Leu	Glu	Ser	Asp	Leu	Cys	Arg	Gln	Glu	Tyr	Thr	Ile	Ala	Arg
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Ile	Pro	Ala	Glu	Arg	Leu	Gly	Arg	Tyr	His	Gln	Cys	Tyr	Asn	Gly	Ser
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Thr	Asp	Phe	Pro	Glu	Leu	Gly	Gly	Gly	His	Ala	Tyr	Cys	Arg	Asn	Pro
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Val	Ile	Ala	Cys	Leu	Phe	Phe	Leu	Val	Cys	Met	Cys	Arg	Asn	Lys	Gln
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Ala	Arg	Leu	Gln	His	Pro	Asn	Val	Val	Cys	Leu	Leu	Gly	Val	Val	Thr
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Lys	Asp	Gln	Pro	Leu	Ser	Met	Ile	Phe	Ser	Tyr	Cys	Ser	His	Gly	Asp
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Leu	His	Glu	Phe	Leu	Val	Met	Arg	Ser	Pro	His	Ser	Asp	Val	Gly	Ser
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Thr	Asp	Asp	Asp	Arg	Thr	Val	Lys	Ser	Ala	Leu	Glu	Pro	Pro	Asp	Phe

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Ser Lys Glu Thr Leu Phe Ser Pro Val Ser Ile Glu Glu Val Pro Pro	
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Arg Pro Pro Ser Pro Pro Lys Lys Pro Ser Pro Thr Ile Cys Gly Ser	
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Asn Tyr Pro Leu Ser Ile Ala Phe Ile Val Val Asn Glu Phe Cys Glu	
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cgc ttt tcc tat tat gga atg aaa gct gtg ctg atc ctg tat ttc ctg	246
Arg Phe Ser Tyr Tyr Gly Met Lys Ala Val Leu Ile Leu Tyr Phe Leu	
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Tyr Phe Leu His Trp Asn Glu Asp Thr Ser Thr Ser Ile Tyr His Ala	
75 80 85	
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Phe Ser Ser Leu Cys Tyr Phe Thr Pro Ile Leu Gly Ala Ala Ile Ala	
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Asp Ser Trp Leu Gly Lys Phe Lys Thr Ile Ile Tyr Leu Ser Leu Val	
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Tyr Val Leu Gly His Val Ile Lys Ser Leu Gly Ala Leu Pro Ile Leu	
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Gly Gly Gln Val Val His Thr Val Leu Ser Leu Ile Gly Leu Ser Leu	
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Ile Ala Leu Gly Thr Gly Gly Ile Lys Pro Cys Val Ala Ala Phe Gly	
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Gly Asp Gln Phe Glu Glu Lys His Ala Glu Glu Arg Thr Arg Tyr Phe	
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Ser Val Phe Tyr Leu Ser Ile Asn Ala Gly Ser Leu Ile Ser Thr Phe	
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Ile Thr Pro Met Leu Arg Gly Asp Val Gln Cys Phe Gly Glu Asp Cys	
205 210 215	
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Tyr Ala Leu Ala Phe Gly Val Pro Gly Leu Leu Met Val Ile Ala Leu	
220 225 230	
gtt gtg ttt gca atg gga agc aaa ata tac aat aaa cca ccc cct gaa	774
Val Val Phe Ala Met Gly Ser Lys Ile Tyr Asn Lys Pro Pro Pro Glu	
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gga aac ata gtg gct caa gtt ttc aaa tgt atc tgg ttt gct att tcc	822

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Asn	Arg	Phe	Lys	Asn	Arg	Ser	Gly	Asp	Ile	Pro	Lys	Arg	His	Asp	Trp		
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Lys	Ala	Leu	Thr	Arg	Val	Leu	Phe	Leu	Tyr	Ile	Pro	Leu	Pro	Met	Phe		
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Trp	Ala	Leu	Leu	Asp	Gln	Gln	Gly	Ser	Arg	Trp	Thr	Leu	Gln	Ala	Ile		
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agg	atg	aat	agg	aat	ttg	ggg	ttt	ttt	gtg	ctt	cag	ccg	gac	cag	atg	1062	
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Gln	Val	Leu	Asn	Pro	Leu	Leu	Val	Leu	Ile	Phe	Ile	Pro	Leu	Phe	Asp		
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Phe	Val	Ile	Tyr	Arg	Leu	Val	Ser	Lys	Cys	Gly	Ile	Asn	Phe	Ser	Ser		
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ctt	agg	aaa	atg	gct	gtt	ggg	atg	atc	cta	gca	tgc	ctg	gca	ttt	gca	1206	
Leu	Arg	Lys	Met	Ala	Val	Gly	Met	Ile	Leu	Ala	Cys	Leu	Ala	Phe	Ala		
			380					385					390				
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Pro	Gly	Pro	Gln	Glu	Val	Phe	Leu	Gln	Val	Leu	Asn	Leu	Ala	Asp	Asp		
	410					415					420						
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Glu	Val	Lys	Val	Thr	Val	Val	Gly	Asn	Glu	Asn	Asn	Ser	Leu	Leu	Ile		
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gag	tcc	atc	aaa	tcc	ttt	cag	aaa	aca	cca	cac	tat	tcc	aaa	ctg	cac	1398	
Glu	Ser	Ile	Lys	Ser	Phe	Gln	Lys	Thr	Pro	His	Tyr	Ser	Lys	Leu	His		
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ctg	aaa	aca	aaa	agc	cag	gat	ttt	cac	ttc	cac	ctg	aaa	tat	cac	aat	1446	
Leu	Lys	Thr	Lys	Ser	Gln	Asp	Phe	His	Phe	His	Leu	Lys	Tyr	His	Asn		
			460				465						470				
ttg	tct	ctc	tac	act	gag	cat	tct	gtg	cag	gag	aag	aac	tgg	tac	agt	1494	
Leu	Ser	Leu	Tyr	Thr	Glu	His	Ser	Val	Gln	Glu	Lys	Asn	Trp	Tyr	Ser		
			475				480					485					
ctt	gtc	att	cgt	gaa	gat	ggg	aac	agt	atc	tcc	agc	atg	atg	gta	aag	1542	
Leu	Val	Ile	Arg	Glu	Asp	Gly	Asn	Ser	Ile	Ser	Ser	Met	Met	Val	Lys		

490	495	500	
gat aca gaa agc aga aca acc aat ggg atg aca acc gtg agg ttt gtt Asp Thr Glu Ser Arg Thr Thr Asn Gly Met Thr Thr Val Arg Phe Val 505 510 515 520			1590
aac act ttg cat aaa gat gtc aac atc tcc ctg agt aca gat acc tct Asn Thr Leu His Lys Asp Val Asn Ile Ser Leu Ser Thr Asp Thr Ser			1638
	525	530	535
ctc aat gtt ggt gaa gac tat ggt gtg tct gct tat aga act gtg caa Leu Asn Val Gly Glu Asp Tyr Gly Val Ser Ala Tyr Arg Thr Val Gln 540 545 550			1686
aga gga gaa tac cct gca gtg cac tgt aga aca gaa gat aag aac ttt Arg Gly Glu Tyr Pro Ala Val His Cys Arg Thr Glu Asp Lys Asn Phe 555 560 565			1734
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att act aat aac acc aat cag ggt ctt cag gcc tgg aag att gaa gac Ile Thr Asn Asn Thr Asn Gln Gly Leu Gln Ala Trp Lys Ile Glu Asp 585 590 595 600			1830
att cca gcc aac aaa atg tcc att cgg tgg cag cta cca caa tat gcc Ile Pro Ala Asn Lys Met Ser Ile Arg Trp Gln Leu Pro Gln Tyr Ala 605 610 615			1878
ctg gtt aca gct ggg gag gtc atg ttc tct gtc aca ggt ctt gag ttt Leu Val Thr Ala Gly Glu Val Met Phe Ser Val Thr Gly Leu Glu Phe 620 625 630			1926
tct tat tct cag gct ccc tct agc atg aaa tct gtg ctc cag gca gct Ser Tyr Ser Gln Ala Pro Ser Ser Met Lys Ser Val Leu Gln Ala Ala 635 640 645			1974
tgg cta ttg aca att gca gtt ggg aat atc atc gtg ctt gtt gtg gca Trp Leu Leu Thr Ile Ala Val Gly Asn Ile Ile Val Leu Val Val Ala 650 655 660			2022
cag ttc agt ggc ctg gta cag tgg gcc gaa ttc att ttg ttt tcc tgc Gln Phe Ser Gly Leu Val Gln Trp Ala Glu Phe Ile Leu Phe Ser Cys 665 670 675 680			2070
ctc ctg ctg gtg atc tgc ctg atc ttc tcc atc atg ggc tac tac tat Leu Leu Leu Val Ile Cys Leu Ile Phe Ser Ile Met Gly Tyr Tyr Tyr 685 690 695			2118
gtt cct gta aag aca gag gat atg cgg ggt cca gca gat aag cac att Val Pro Val Lys Thr Glu Asp Met Arg Gly Pro Ala Asp Lys His Ile 700 705 710			2166
cct cac atc cag ggg aac atg atc aaa cta gag acc aag aag aca aaa Pro His Ile Gln Gly Asn Met Ile Lys Leu Glu Thr Lys Lys Thr Lys 715 720 725			2214
ctc tga tgactcccta gattctgtcc taaccccaat tccctggccc tgtcttgaag Leu *			2270

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Leu	Ala	Lys	Leu	Leu	Pro	Leu	Leu	Met	Ala	Gln	Leu	Trp	Ala	Ala	Glu	
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gcg	gcg	ctg	ctc	ccc	caa	aac	gac	acg	gcg	ttg	gac	ccc	gaa	gcc	tat	144
Ala	Ala	Leu	Leu	Pro	Gln	Asn	Asp	Thr	Arg	Leu	Asp	Pro	Glu	Ala	Tyr	
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ggc	gcc	ccg	tgc	gcg	cgc	ggc	tcg	cag	ccc	tgg	cag	gtc	tcg	ctc	ttc	192
Gly	Ala	Pro	Cys	Ala	Arg	Gly	Ser	Gln	Pro	Trp	Gln	Val	Ser	Leu	Phe	
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Asn	Gly	Leu	Ser	Phe	His	Cys	Ala	Gly	Val	Leu	Val	Asp	Gln	Ser	Trp	
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Val	Leu	Thr	Ala	Ala	His	Cys	Gly	Asn	Lys	Pro	Leu	Trp	Ala	Arg	Val	
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ggg	gat	gac	cac	ctg	ctg	ctt	ctt	cag	ggc	gag	cag	ctc	cgc	cgg	acg	336
Gly	Asp	Asp	His	Leu	Leu	Leu	Leu	Gln	Gly	Glu	Gln	Leu	Arg	Arg	Thr	
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act	cgc	tct	gtt	gtc	cat	ccc	aag	tac	cac	cag	ggc	tca	ggc	ccc	atc	384
Thr	Arg	Ser	Val	Val	His	Pro	Lys	Tyr	His	Gln	Gly	Ser	Gly	Pro	Ile	
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ctg	cca	agg	cga	acg	gat	gag	cac	gat	ctc	atg	ttg	cta	aag	ctg	gcc	432
Leu	Pro	Arg	Arg	Thr	Asp	Glu	His	Asp	Leu	Met	Leu	Leu	Lys	Leu	Ala	
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Arg	Pro	Val	Val	Pro	Gly	Pro	Arg	Val	Arg	Ala	Leu	Gln	Leu	Pro	Tyr	
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Arg	Cys	Ala	Gln	Pro	Gly	Asp	Gln	Cys	Gln	Val	Ala	Gly	Trp	Gly	Thr	
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acg	gcc	gcc	cgg	aga	gtg	aag	tac	aac	aag	ggc	ctg	acc	tgc	tcc	agc	576
Thr	Ala	Ala	Arg	Arg	Val	Lys	Tyr	Asn	Lys	Gly	Leu	Thr	Cys	Ser	Ser	
			180					185					190			
atc	act	atc	ctg	agc	cct	aaa	gag	tgt	gag	gtc	ttc	tac	cct	ggc	gtg	624
Ile	Thr	Ile	Leu	Ser	Pro	Lys	Glu	Cys	Glu	Val	Phe	Tyr	Pro	Gly	Val	
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gtc	acc	aac	aac	atg	ata	tgt	gct	gga	ctg	gac	cgg	ggc	cag	gac	cct	672
Val	Thr	Asn	Asn	Met	Ile	Cys	Ala	Gly	Leu	Asp	Arg	Gly	Gln	Asp	Pro	
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Cys	Gln	Ser	Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Asp	Glu	Thr	Leu	Gln	
			225		230			235			240					
ggc	atc	ctc	tcg	tgg	ggt	gtt	tac	ccc	tgt	ggc	tct	gcc	cag	cat	cca	768
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 Met Thr Asn Ser Ser Ser Thr Ser Thr Ser Ser Thr Thr
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 Arg Arg Ile Pro Val Ser Leu Leu Tyr Ser Gly Leu Ala Ile Gly Gly
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 Thr Leu Ala Asn Gly Met Val Ile Tyr Leu Val Ser Ser Phe Arg Lys
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 Leu Ser Val Cys Ala Leu Trp Met Pro Gln Glu Ala Val Leu Gly Leu
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 Leu Pro Thr Gly Ser Ala Glu Pro Pro Ala Asp Trp Asp Gly Ala Gly
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 ggc agc tac cgc ctg cta cgg ggt ggg ctg ctg ggc ctc gga ctc acg 566
 Gly Ser Tyr Arg Leu Leu Arg Gly Gly Leu Leu Gly Leu Gly Leu Thr
 110 115 120 125
 gtg tcc ctc ctc tcc cac tgc ctc gtg gcc ctg aac cgc tac ctg ctc 614
 Val Ser Leu Leu Ser His Cys Leu Val Ala Leu Asn Arg Tyr Leu Leu
 130 135 140
 atc acc cgg gcg ccc gcc acc tac cag gcg ctg tac cag agg cgc cac 662
 Ile Thr Arg Ala Pro Ala Thr Tyr Gln Ala Leu Tyr Gln Arg Arg His
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 acg gcg ggc atg ctg gcg ctg tcc tgg gcg ctc gcc ctg ggc ctc gtg 710
 Thr Ala Gly Met Leu Ala Leu Ser Trp Ala Leu Ala Leu Gly Leu Val
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 Leu Leu Leu Pro Pro Trp Ala Pro Arg Pro Gly Ala Ala Pro Pro Arg
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 gtc cac tac ccg gcg ctg ctg gcc gcc gcg gcg ctg ctg gcg cag aca 806
 Val His Tyr Pro Ala Leu Leu Ala Ala Ala Leu Leu Ala Gln Thr

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Ser Val Lys Arg Val Ser Val Leu Asn Phe His Leu Leu His Gln Leu				
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ccg ggc ccc ggt ggc gcc gcg cac ccg gcg cag gcc cag ccc ctg ccg	998			
Pro Gly Pro Gly Gly Ala Ala His Pro Ala Gln Ala Gln Pro Leu Pro				
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Pro Ala Leu His Pro Arg Arg Ala Gln Arg Arg Leu Ser Gly Leu Ser				
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Val Leu Leu Leu Cys Cys Val Phe Leu Leu Ala Thr Gln Pro Leu Val				
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Trp Val Ser Leu Ala Ser Gly Phe Ser Leu Pro Val Pro Trp Gly Val				
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Gln Ala Ala Ser Trp Leu Leu Cys Cys Ala Leu Ser Ala Leu Asn Pro				
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Leu Leu Tyr Thr Trp Arg Asn Glu Glu Phe Arg Arg Ser Val Arg Ser				
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Val Leu Pro Gly Val Gly Asp Ala Ala Ala Ala Val Ala Ala Thr				
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gcc gtg ccc gca gtg tcc cag gcg caa ctg ggc acc cgc gcc gcg ggc	1334			
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Gln His Trp *				

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gccctttatt cttaaaaggg ttttaataa aagtctttct caaatgaggt agaattcttag	1986

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2043

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<211> 384

<212> PRT

<213> Homo sapiens

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Thr	Ser	Asn	Ala	Phe	Ile	Val	Asn	Gly	Cys	Ala	Ala	Asp	Leu	Ser	Val
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Cys	Ala	Leu	Trp	Met	Pro	Gln	Glu	Ala	Val	Leu	Gly	Leu	Leu	Pro	Thr
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Pro	Pro	Trp	Ala	Pro	Arg	Pro	Gly	Ala	Ala	Pro	Pro	Arg	Val	His	Tyr
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Arg	Val	Ser	Val	Leu	Asn	Phe	His	Leu	Leu	His	Gln	Leu	Pro	Gly	Cys
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His	Pro	Arg	Arg	Ala	Gln	Arg	Arg	Leu	Ser	Gly	Leu	Ser	Val	Leu	Leu
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Leu	Cys	Cys	Val	Phe	Leu	Leu	Ala	Thr	Gln	Pro	Leu	Val	Trp	Val	Ser
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Ser	Trp	Leu	Leu	Cys	Cys	Ala	Leu	Ser	Ala	Leu	Asn	Pro	Leu	Leu	Tyr
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Thr	Trp	Arg	Asn	Glu	Glu	Phe	Arg	Arg	Ser	Val	Arg	Ser	Val	Leu	Pro
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ccttgacatc tccatctgca cagaggtcct ggctggaccg agcagcctcc tcctcctagg 360
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1 5 10 15
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Gly Ser Gly Leu Pro Pro Met Glu Ser Gln Phe Gln Gly Glu Asp Arg
35 40 45
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aaa ttc gcc cct cag ata aga gtc aac ctc aac tac cga aag gga aca 552
Lys Phe Ala Pro Gln Ile Arg Val Asn Leu Asn Tyr Arg Lys Gly Thr
50 55 60
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ggt gcc agt cag ccg gat cca aac cga ttt gac cga gat cgg ctc ttc 600
Gly Ala Ser Gln Pro Asp Pro Asn Arg Phe Asp Arg Asp Arg Leu Phe
65 70 75 80
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aat gcg gtc tcc cgg ggt gtc ccc gag gat ctg gct gga ctt cca gag 648
Asn Ala Val Ser Arg Gly Val Pro Glu Asp Leu Ala Gly Leu Pro Glu
85 90 95
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Tyr Leu Ser Lys Thr Ser Lys Tyr Leu Thr Asp Ser Glu Tyr Thr Glu
100 105 110
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ggc tcc aca ggt aag acg tgc ctg atg aag gct gtg ctg aac ctt aag 744
Gly Ser Thr Gly Lys Thr Cys Leu Met Lys Ala Val Leu Asn Leu Lys
115 120 125
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gac gga gtc aat gcc tgc att ctg cca ctg ctg cag atc gac agg gac 792
Asp Gly Val Asn Ala Cys Ile Leu Pro Leu Leu Gln Ile Asp Arg Asp
130 135 140
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tct ggc aat cct cag ccc ctg gta aat gcc cag tgc aca gat gac tat 840
Ser Gly Asn Pro Gln Pro Leu Val Asn Ala Gln Cys Thr Asp Asp Tyr
145 150 155 160
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Tyr Arg Gly His Ser Ala Leu His Ile Ala Ile Glu Lys Arg Ser Leu
165 170 175
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Gln Cys Val Lys Leu Leu Val Glu Asn Gly Ala Asn Val His Ala Arg
180 185 190
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ggt gag cta ccc ctc tct ttg gcc gct tgc acc aag cag tgg gat gtg	1032
Gly Glu Leu Pro Leu Ser Leu Ala Ala Cys Thr Lys Gln Trp Asp Val	
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Val Ser Tyr Leu Leu Glu Asn Pro His Gln Pro Ala Ser Leu Gln Ala	
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Thr Asp Ser Gln Gly Asn Thr Val Leu His Ala Leu Val Met Ile Ser	
245 250 255	
gac aac tca gct gag aac att gca ctg gtg acc agc atg tat gat ggg	1176
Asp Asn Ser Ala Glu Asn Ile Ala Leu Val Thr Ser Met Tyr Asp Gly	
260 265 270	
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Leu Leu Gln Ala Gly Ala Arg Leu Cys Pro Thr Val Gln Leu Glu Asp	
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Ile Arg Asn Leu Gln Asp Leu Thr Pro Leu Lys Leu Ala Ala Lys Glu	
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325 330 335	
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Ser Val Leu Glu Ile Ile Ala Phe His Cys Lys Ser Pro His Arg His	
355 360 365	
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Tyr Met Phe Ile Phe Thr Ala Val Ala Tyr His Gln Pro Thr Leu Lys	
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Lys Gln Ala Ala Pro His Leu Lys Ala Glu Val Gly Asn Ser Met Leu	
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Phe	Ile	Asp	Ser	Tyr	Phe	Glu	Ile	Leu	Phe	Leu	Phe	Gln	Ala	Leu	Leu		
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Thr	Val	Val	Ser	Gln	Val	Leu	Cys	Phe	Leu	Ala	Ile	Glu	Trp	Tyr	Leu		
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Tyr	Thr	Arg	Gly	Phe	Gln	His	Thr	Gly	Ile	Tyr	Ser	Val	Met	Ile	Gln		
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Trp	Ser	Ile	Trp	Lys	Leu	Gln	Lys	Ala	Ile	Ser	Val	Leu	Glu	Met	Glu		
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Pro Val Leu Ala Ser Pro Pro Lys Glu Asp Glu Asp Gly Ala Ser Glu															
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Pro	Leu	Leu	Val	Ser	Ala	Leu	Val	Leu	Gly	Trp	Leu	Asn	Leu	Leu
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Tyr	Thr	Arg	Gly	Phe	Gln	His	Thr	Gly	Ile	Tyr	Ser	Val	Met	Ile
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Lys	Val	Ile	Leu	Arg	Asp	Leu	Leu	Arg	Phe	Leu	Leu	Ile	Tyr	Leu
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Phe	Leu	Phe	Gly	Phe	Ala	Val	Ala	Leu	Val	Ser	Leu	Ser	Gln	Glu
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625					630					635				640
Leu	Ile	Ala	Leu	Met	Ser	Glu	Thr	Val	Asn	Ser	Val	Ala	Thr	Asp
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Trp	Ser	Ile	Trp	Lys	Leu	Gln	Lys	Ala	Ile	Ser	Val	Leu	Glu	Met
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Asn	Gly	Tyr	Trp	Trp	Cys	Arg	Lys	Lys	Gln	Arg	Ala	Gly	Val	Met
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Thr	Val	Gly	Thr	Lys	Pro	Asp	Gly	Ser	Pro	Asp	Glu	Arg	Trp	Cys
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Ile	His	Leu	Val	Ser	Arg	Glu	Glu	Cys	Glu	His	Ala	Tyr	Pro	Gly	Gln		
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Ile	Thr	Gln	Asn	Met	Leu	Cys	Ala	Gly	Asp	Glu	Lys	Tyr	Gly	Lys	Asp		
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Ser	Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Gly	Asp	His	Leu		
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cga	ggc	ctt	gtg	tca	tgg	ggt	aac	atc	ccc	tgt	gga	tca	aag	gag	aag	914	
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Pro	Gly	Val	Tyr	Thr	Asn	Val	Cys	Arg	Tyr	Thr	Asn	Trp	Ile	Gln	Lys		
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acc	att	cag	gcc	aag	tga	ccctgacatg	tgacatctac	ctccccgacct								1010	
Thr	Ile	Gln	Ala	Lys	*												
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His	Pro	Tyr	Gln	Ala	Ala	Leu	Tyr	Thr	Ser	Gly	His	Leu	Leu	Cys	Gly	
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Gly	Val	Leu	Ile	His	Pro	Leu	Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Lys	
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Lys	Pro	Asn	Leu	Gln	Val	Phe	Leu	Gly	Lys	His	Asn	Leu	Arg	Gln	Arg	
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Glu	Ser	Ser	Gln	Glu	Gln	Ser	Ser	Val	Val	Arg	Ala	Val	Ile	His	Pro	
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Asp-Tyr	Asp	Ala	Ala	Ser	His	Asp	Gln	Asp	Ile	Met	Leu	Leu	Arg	Leu		
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Ala	Arg	Pro	Ala	Lys	Leu	Ser	Glu	Leu	Ile	Gln	Pro	Leu	Pro	Leu	Glu	
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Arg	Asp	Cys	Ser	Ala	Asn	Thr	Thr	Ser	Cys	His	Ile	Leu	Gly	Trp	Gly	
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Gln	Glu	Gly	Val	Ala	Met	Met	Phe	Ile	Ile	Asn	Phe	Glu	Tyr	Val	Thr		
		120					125					130					
gat	aat	gaa	aac	gct	gcc	acc	cca	gag	agg	gta	aac	cca	ata	tta	cca	547	
Asp	Asn	Glu	Asn	Ala	Ala	Thr	Pro	Glu	Arg	Val	Asn	Pro	Ile	Leu	Pro		
	135					140					145						
atc	aaa	act	gta	aac	cgg	aaa	ttt	ttt	ggg	ttc	aaa	ttc	cct	ggc	ctg	595	
Ile	Lys	Thr	Val	Asn	Arg	Lys	Phe	Phe	Gly	Phe	Lys	Phe	Pro	Gly	Leu		
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Arg	Val	Leu	Thr	Tyr	Arg	Lys	Gln	Ser	Leu	Pro	Gln	Glu	Asp	Pro	Asp		
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gtg	gtg	gtc	atc	gat	tca	tct	aaa	cac	agt	gat	gat	tca	gta	gcc	atg	691	
Val	Val	Val	Ile	Asp	Ser	Ser	Lys	His	Ser	Asp	Asp	Ser	Val	Ala	Met		
			185					190					195				
aag	cat	ttt	aag	tct	cct	aca	aaa	gaa	agc	tgc	agc	ccc	tct	gaa	gca	739	
Lys	His	Phe	Lys	Ser	Pro	Thr	Lys	Glu	Ser	Cys	Ser	Pro	Ser	Glu	Ala		
	200						205					210					
gat	gac	aca	aaa	gct	ttg	ata	cag	ccc	agc	aaa	tgt	tct	ccc	ttg	gtg	787	
Asp	Asp	Thr	Lys	Ala	Leu	Ile	Gln	Pro	Ser	Lys	Cys	Ser	Pro	Leu	Val		
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Asn	Ile	Ser	Gly	Pro	Leu	Asp	His	Ser	Ser	Pro	Lys	Arg	Gln	Trp	Asp		
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Arg	Leu	Tyr	Pro	Asp	Met	Leu	Gln	Ser	Ser	Ser	Gln	Leu	Ser	His	Ser		
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Arg	Ser	Arg	Glu	Ser	Leu	Cys	Ser	Ile	Arg	Arg	Ala	Ser	Ser	Val	His		
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Asp	Ile	Glu	Gly	Phe	Gly	Val	His	Pro	Lys	Asn	Ile	Phe	Arg	Asp	Arg		
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cat	gcc	agc	gaa	gac	aat	ggc	cgc	aat	gtc	aaa	ggg	cct	ttt	aat	cat	1027	
His	Ala	Ser	Glu	Asp	Asn	Gly	Arg	Asn	Val	Lys	Gly	Pro	Phe	Asn	His		
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Ile	Lys	Ser	Ser	Leu	Leu	Gly	Ser	Thr	Ser	Asp	Ser	Asn	Leu	Asn	Lys		
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tac	agc	acc	att	aac	aag	att	cca	cag	ctc	act	ctg	aat	ttt	tca	gag	1123	
Tyr	Ser	Thr	Ile	Asn	Lys	Ile	Pro	Gln	Leu	Thr	Leu	Asn	Phe	Ser	Glu		
				330				335						340			
gtc	aaa	act	gag	aaa	aag	aat	tca	tca	cct	cct	tct	tca	gat	aaa	acc	1171	
Val	Lys	Thr	Glu	Lys	Lys	Asn	Ser	Ser	Pro	Pro	Ser	Ser	Asp	Lys	Thr		
			345				350						355				
att	att	gca	ccc	aag	gtt	aaa	gat	cga	aca	cac	aat	gtg	act	gag	aaa	1219	
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ctg cag aca cca cgc atc aac aag ttt acg ata ttg cac tac agc cct Leu Gln Thr Pro Arg Ile Asn Lys Phe Thr Ile Leu His Tyr Ser Pro 390 395 400 405			1315
ttc aag gca gtc tgg gac tgg ctt atc ctg ctg ttg gtc ata tac act Phe Lys Ala Val Trp Asp Trp Leu Ile Leu Leu Leu Val Ile Tyr Thr 410 415 420			1363
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ttc aga aca aca tat gtt aat cag aat gaa gaa gtg gta agt gat ccc Phe Arg Thr Thr Tyr Val Asn Gln Asn Glu Glu Val Val Ser Asp Pro 470 475 480 485			1555
gcc aaa ata gca ata cac tac ttc aaa ggc tgg ttc ctg att gac atg Ala Lys Ile Ala Ile His Tyr Phe Lys Gly Trp Phe Leu Ile Asp Met 490 495 500			1603
gtt gca gca att cct ttt gac ttg ctg att ttt gga tca ggt tct gat Val Ala Ala Ile Pro Phe Asp Leu Leu Ile Phe Gly Ser Gly Ser Asp 505 510 515			1651
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ctt gtg cgc gtg gcc agg aaa ctg gat cga tat tca gaa tat ggc gct Leu Val Arg Val Ala Arg Lys Leu Asp Arg Tyr Ser Glu Tyr Gly Ala 535 540 545			1747
gct gtt cta atg ctc tca atg tgc atc ttt gcc ctg aat gca cac tgg Ala Val Leu Met Leu Ser Met Cys Ile Phe Ala Leu Asn Ala His Trp 550 555 560 565			1795
ctg gct tgc att tgg tat gcg att ggg aat gta gaa agg cct tac ctg Leu Ala Cys Ile Trp Tyr Ala Ile Gly Asn Val Glu Arg Pro Tyr Leu 570 575 580			1843
act gac aaa atc gga tgg ttg gat tcc tta gga cag caa att ggg aaa Thr Asp Lys Ile Gly Trp Leu Asp Ser Leu Gly Gln Gln Ile Gly Lys 585 590 595			1891
cgt tac aat gac agt gac tca agt tct gga cca tcc att aaa gac aaa Arg Tyr Asn Asp Ser Asp Ser Ser Ser Gly Pro Ser Ile Lys Asp Lys 600 605 610			1939

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Ala Lys Ala Asp Leu Leu Arg Ser Gln Ser Met Asn Asp Ser Glu Gly	
870 875 880 885	
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Asp Asn Cys Lys Leu Arg Arg Arg Lys Leu Ser Phe Glu Ser Glu Gly	
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Glu Lys Glu Asn Ser Thr Asn Asp Pro Glu Asp Ser Ala Asp Thr Ile	
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Ser Gly Ile Val Asp Ser Ser Pro Gly Ile Gly Lys Ala Ser Gly Leu	
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Lys Gln Thr Thr Val Val Pro Pro Ala Tyr Ser Met Val Thr Ala Gly	
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 Gln Arg Lys Thr Tyr Val His Pro Ile Arg His Pro Ser Leu Pro Asp
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 Thr Cys Asp Phe Leu His Gly Pro Glu Thr Lys Arg His Asp Ile Ala
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 Ile Pro Val Lys Asn Gln Glu Gly Val Ala Met Met Phe Ile Ile Asn
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Gln	Glu	Asp	Pro	Asp	Val	Val	Val	Ile	Asp	Ser	Ser	Lys	His	Ser
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Asp	Ser	Val	Ala	Met	Lys	His	Phe	Lys	Ser	Pro	Thr	Lys	Glu	Ser
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Ser	Pro	Ser	Glu	Ala	Asp	Asp	Thr	Lys	Ala	Leu	Ile	Gln	Pro	Ser
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Lys	Arg	Gln	Trp	Asp	Arg	Leu	Tyr	Pro	Asp	Met	Leu	Gln	Ser	Ser
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Gln	Leu	Ser	His	Ser	Arg	Ser	Arg	Glu	Ser	Leu	Cys	Ser	Ile	Arg
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		275					280					285		Asn
Ile	Phe	Arg	Asp	Arg	His	Ala	Ser	Glu	Asp	Asn	Gly	Arg	Asn	Val
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Gly	Pro	Phe	Asn	His	Ile	Lys	Ser	Ser	Leu	Leu	Gly	Ser	Thr	Ser
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Ser	Asn	Leu	Asn	Lys	Tyr	Ser	Thr	Ile	Asn	Lys	Ile	Pro	Gln	Leu
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Leu	Asn	Phe	Ser	Glu	Val	Lys	Thr	Glu	Lys	Lys	Asn	Ser	Ser	Pro
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	370					375					380			Val
Leu	Pro	Glu	Tyr	Lys	Leu	Gln	Thr	Pro	Arg	Ile	Asn	Lys	Phe	Thr
385					390					395				Ile
Leu	His	Tyr	Ser	Pro	Phe	Lys	Ala	Val	Trp	Asp	Trp	Leu	Ile	Leu
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Leu	Val	Ile	Tyr	Thr	Ala	Ile	Phe	Thr	Pro	Tyr	Ser	Ala	Ala	Phe
			420					425					430	Leu
Leu	Asn	Asp	Arg	Glu	Glu	Gln	Lys	Arg	Arg	Glu	Cys	Gly	Tyr	Ser
	435						440					445		Cys
Ser	Pro	Leu	Asn	Val	Val	Asp	Leu	Ile	Val	Asp	Ile	Met	Phe	Ile
	450					455					460			Ile
Asp	Ile	Leu	Ile	Asn	Phe	Arg	Thr	Thr	Tyr	Val	Asn	Gln	Asn	Glu
465					470					475				480
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Phe	Leu	Ile	Asp	Met	Val	Ala	Ala	Ile	Pro	Phe	Asp	Leu	Leu	Ile
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Gly	Ser	Gly	Ser	Asp	Glu	Thr	Thr	Thr	Leu	Ile	Gly	Leu	Leu	Lys
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Leu	Asn	Ala	His	Trp	Leu	Ala	Cys	Ile	Trp	Tyr	Ala	Ile	Gly	Asn
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Glu	Arg	Pro	Tyr	Leu	Thr	Asp	Lys	Ile	Gly	Trp	Leu	Asp	Ser	Leu
		580						585					590	Gly
Gln	Gln	Ile	Gly	Lys	Arg	Tyr	Asn	Asp	Ser	Asp	Ser	Ser	Ser	Gly
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Ser	Ile	Lys	Asp	Lys	Tyr	Val	Thr	Ala	Leu	Tyr	Phe	Thr	Phe	Ser
	610					615					620			Ser
Leu	Thr	Ser	Val	Gly	Phe	Gly	Asn	Val	Ser	Pro	Asn	Thr	Asn	Ser
														Glu

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Lys	Ile	Phe	Ser	Ile	Cys	Val	Met	Leu	Ile	Gly	Ser	Leu	Met	Tyr
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Gln	His	Ala	Trp	Thr	Tyr	Thr	Asn	Gly	Ile	Asp	Met	Asn	Met	Val
705					710					715				720
Lys	Gly	Phe	Pro	Glu	Cys	Leu	Gln	Ala	Asp	Ile	Cys	Leu	His	Leu
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Gln	Thr	Leu	Leu	Gln	Asn	Cys	Lys	Ala	Phe	Arg	Gly	Ala	Ser	Lys
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Cys	Leu	Arg	Ala	Leu	Ala	Met	Lys	Phe	Lys	Thr	Thr	His	Ala	Leu
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Lys	Pro	Gly	Lys	Ser	Asn	Ala	Asp	Val	Arg	Ala	Leu	Thr	Tyr	Cys
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Asn	Asp	Ser	Glu	Gly	Asp	Asn	Cys	Lys	Leu	Arg	Arg	Arg	Lys	Leu
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Phe	Glu	Ser	Glu	Gly	Glu	Lys	Glu	Asn	Ser	Thr	Asn	Asp	Pro	Glu
	900							905					910	
Ser	Ala	Asp	Thr	Ile	Arg	His	Tyr	Gln	Ser	Ser	Lys	Arg	His	Phe
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	930					935						940		
Gln	Lys	Pro	Leu	Phe	Ser	Gly	Ile	Val	Asp	Ser	Ser	Pro	Gly	Ile
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Lys	Ala	Ser	Gly	Leu	Asp	Phe	Glu	Glu	Thr	Val	Pro	Thr	Ser	Gly
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Met	His	Ile	Asp	Lys	Arg	Ser	His	Ser	Cys	Lys	Asp	Ile	Thr	Asp
		980						985					990	
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Leu	Gln	Leu	Leu	Gln	Lys	Gln	Thr	Thr	Val	Val	Pro	Pro	Ala	Tyr
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Pro	Ser	Ser	Gln	Cys	Pro	Glu	Phe	Leu	Asp	Leu	Glu	Lys	Ser	Lys
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Phe	Pro	Leu	Arg	Ala	Leu	His	Arg	Arg	Thr	Pro	Arg	Leu	Ala	Leu	Ala		
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gtc	agc	ctc	agc	atc	tgg	gta	ggc	tct	gcg	gcg	gtg	tct	gcg	ccg	gtg	706	
Val	Ser	Leu	Ser	Ile	Trp	Val	Gly	Ser	Ala	Ala	Val	Ser	Ala	Pro	Val		
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Leu	Ala	Leu	His	Arg	Leu	Ser	Pro	Gly	Pro	Arg	Ala	Tyr	Cys	Ser	Glu		
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Ala	Phe	Pro	Ser	Arg	Ala	Leu	Glu	Arg	Ala	Phe	Ala	Leu	Tyr	Asn	Leu		
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gat	agc	gcc	ctg	cag	ggg	cag	gtg	ctg	gca	gag	cgc	gca	ggc	gcc	gtg	946	
Asp	Ser	Ala	Leu	Gln	Gly	Gln	Val	Leu	Ala	Glu	Arg	Ala	Gly	Ala	Val		
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Arg	Ala	Lys	Val	Ser	Arg	Leu	Val	Ala	Ala	Val	Val	Leu	Leu	Phe	Ala		
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Ala	Cys	Trp	Gly	Pro	Ile	Gln	Leu	Phe	Leu	Val	Leu	Gln	Ala	Leu	Gly		
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Pro	Ala	Gly	Ser	Trp	His	Pro	Arg	Ser	Tyr	Ala	Ala	Tyr	Ala	Leu	Lys		
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Thr	Trp	Ala	His	Cys	Met	Ser	Tyr	Ser	Asn	Ser	Ala	Leu	Asn	Pro	Leu		
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Leu	Tyr	Ala	Phe	Leu	Gly	Ser	His	Phe	Arg	Gln	Ala	Phe	Arg	Arg	Val		
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Ser	Asp	Pro	Ala	Ala	Pro	His	Ala	Glu	Leu	His	Arg	Leu	Gly	Ser	His		
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Pro	Ala	Pro	Ala	Arg	Ala	Gln	Lys	Pro	Gly	Ser	Ser	Gly	Leu	Ala	Ala		

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Phe	Ala	Ala	Leu	Met	Leu	Leu	Gly	Leu	Val	Gly	Asn	Ser	Leu	Val	Ile
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Tyr	Val	Ile	Cys	Arg	His	Lys	Pro	Met	Arg	Thr	Val	Thr	Asn	Phe	Tyr
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Thr	Cys	Ala	Thr	Leu	Thr	Ala	Met	Ser	Val	Asp	Arg	Trp	Tyr	Val	Thr
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Val	Phe	Pro	Leu	Arg	Ala	Leu	His	Arg	Arg	Thr	Pro	Arg	Leu	Ala	Leu
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Ala	Val	Ser	Leu	Ser	Ile	Trp	Val	Gly	Ser	Ala	Ala	Val	Ser	Ala	Pro
				165					170					175	
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Glu	Ala	Phe	Pro	Ser	Arg	Ala	Leu	Glu	Arg	Ala	Phe	Ala	Leu	Tyr	Asn
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Leu	Leu	Ala	Leu	Tyr	Leu	Leu	Pro	Leu	Leu	Ala	Thr	Cys	Ala	Cys	Tyr
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Ala	Asp	Ser	Ala	Leu	Gln	Gly	Gln	Val	Leu	Ala	Glu	Arg	Ala	Gly	Ala
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Val	Arg	Ala	Lys	Val	Ser	Arg	Leu	Val	Ala	Ala	Val	Val	Leu	Leu	Phe
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Ala	Ala	Cys	Trp	Gly	Pro	Ile	Gln	Leu	Phe	Leu	Val	Leu	Gln	Ala	Leu
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Gly	Pro	Ala	Gly	Ser	Trp	His	Pro	Arg	Ser	Tyr	Ala	Ala	Tyr	Ala	Leu
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Lys	Thr	Trp	Ala	His	Cys	Met	Ser	Tyr	Ser	Asn	Ser	Ala	Leu	Asn	Pro
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Leu	Leu	Tyr	Ala	Phe	Leu	Gly	Ser	His	Phe	Arg	Gln	Ala	Phe	Arg	Arg
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His Pro Ala Pro Ala Arg Ala Gln Lys Pro Gly Ser Ser Gly Leu Ala
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Phe Val Leu Ala Leu Met Leu Gly Ala Leu Pro Glu Val Val Gly Phe
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cct gcg ggt ccg cac tac ccc tat tac ctt ccc acc cag cag cgg ccc 199
Pro Ala Gly Pro His Tyr Pro Tyr Tyr Leu Pro Thr Gln Gln Arg Pro
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Pro Thr Thr Arg Pro Pro Pro Pro Leu Pro Arg Phe Pro Arg Pro Pro
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Arg Ala Leu Pro Ala Gln Arg Pro His Ala Leu Gln Ala Gly His Thr
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Pro Arg Pro His Pro Trp Gly Cys Pro Ala Gly Glu Pro Trp Val Ser
90 95 100

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Val Thr Asp Phe Gly Ala Pro Cys Leu Arg Trp Ala Glu Val Pro Pro
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Phe Leu Glu Arg Ser Pro Pro Ala Ser Trp Ala Gln Leu Arg Gly Gln
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Arg His Asn Phe Cys Arg Ser Pro Asp Gly Ala Gly Arg Pro Trp Cys
135 140 145

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Phe Tyr Gly Asp Ala Arg Gly Lys Val Asp Trp Gly Tyr Cys Asp Cys

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	170	175	180	
aca gtg gaa gta tat gca agt gga gtt tgg ggc act gtc tgt agc agc	Thr Val Glu Val Tyr Ala Ser Gly Val Trp Gly Thr Val Cys Ser Ser	631		
	185	190	195	
cac tgg gat gat tct gat gca tca gtc att tgt cac cag ctg cag ctg	His Trp Asp Asp Ser Asp Ala Ser Val Ile Cys His Gln Leu Gln Leu	679		
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	265	270	275	
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	280	285	290	
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	295	300	305	
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	360	365	370	
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	375	380	385	
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Tyr Val Val Cys Arg Gln Leu Gly Phe Lys Tyr Gly Lys Gln Ala Ser	
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Trp Gly Arg His Asp Cys Ser His Arg Glu Asp Val Ser Ile Ala Cys	
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Gln Asp Ile Gly Arg His Asn Cys Arg His Ser Glu Asp Ala Gly Val	
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Ile Cys Asp Tyr Phe Gly Lys Lys Ala Ser Gly Asn Ser Asn Lys Glu	
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Arg Ile Ile Gly Gly Lys Asn Ser Leu Arg Gly Gly Trp Pro Trp Gln	
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Pro Gln Lys Thr Ala Ser Asn Cys Tyr Ile Thr Gly Trp Gly Asp Thr	
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Gly Arg Ala Tyr Ser Arg Thr Leu Gln Gln Ala Ala Ile Pro Leu Leu	
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cct aaa agg ttt tgt gaa gaa cgt tat aag ggt cgg ttt aca ggg aga	2455
Pro Lys Arg Phe Cys Glu Glu Arg Tyr Lys Gly Arg Phe Thr Gly Arg	
790 795 800 805	
atg ctt tgt gct gga aac ctc cat gaa cac aaa cgc gtg gac agc tgc	2503
Met Leu Cys Ala Gly Asn Leu His Glu His Lys Arg Val Asp Ser Cys	
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cag gga gac agc gga gga cca ctc atg tgt gaa cgg ccc gga gag agc	2551
Gln Gly Asp Ser Gly Gly Pro Leu Met Cys Glu Arg Pro Gly Glu Ser	
825 830 835	
tgg gtg gtg tat ggg gtg acc tcc tgg ggg tat ggc tgt gga gtc aag	2599
Trp Val Val Tyr Gly Val Thr Ser Trp Gly Tyr Gly Cys Gly Val Lys	
840 845 850	
gat tct cct ggt gtt tat acc aaa gtc tca gcc ttt gta cct tgg ata	2647
Asp Ser Pro Gly Val Tyr Thr Lys Val Ser Ala Phe Val Pro Trp Ile	
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Lys Ser Val Thr Lys Leu *	
870 875	

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<212> PRT

<213> Homo sapiens

<400> 34

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His Arg His Ser Pro Pro Ala Gly Pro His Tyr Pro Tyr Tyr Leu Pro
35     40     45
Thr Gln Gln Arg Pro Pro Thr Thr Arg Pro Pro Pro Pro Leu Pro Arg
50     55     60
Phe Pro Arg Pro Pro Arg Ala Leu Pro Ala Gln Arg Pro His Ala Leu
65     70     75     80
Gln Ala Gly His Thr Pro Arg Pro His Pro Trp Gly Cys Pro Ala Gly
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Glu Pro Trp Val Ser Val Thr Asp Phe Gly Ala Pro Cys Leu Arg Trp
100    105    110
Ala Glu Val Pro Pro Phe Leu Glu Arg Ser Pro Pro Ala Ser Trp Ala
115    120    125
Gln Leu Arg Gly Gln Arg His Asn Phe Cys Arg Ser Pro Asp Gly Ala
130    135    140
Gly Arg Pro Trp Cys Phe Tyr Gly Asp Ala Arg Gly Lys Val Asp Trp
145    150    155    160
Gly Tyr Cys Asp Cys Arg His Gly Ser Val Arg Leu Arg Gly Gly Lys
165    170    175
Asn Glu Phe Glu Gly Thr Val Glu Val Tyr Ala Ser Gly Val Trp Gly
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Thr Val Cys Ser Ser His Trp Asp Asp Ser Asp Ala Ser Val Ile Cys
195    200    205
His Gln Leu Gln Leu Gly Gly Lys Gly Ile Ala Lys Gln Thr Pro Phe
210    215    220
Ser Gly Leu Gly Leu Ile Pro Ile Tyr Trp Ser Asn Val Arg Cys Arg
225    230    235    240
Gly Asp Glu Glu Asn Ile Leu Leu Cys Glu Lys Asp Ile Trp Gln Gly
245    250    255
Gly Val Cys Pro Gln Lys Met Ala Ala Ala Val Thr Cys Ser Phe Ser
260    265    270
His Gly Pro Thr Phe Pro Ile Ile Arg Leu Ala Gly Gly Ser Ser Val
275    280    285
His Glu Gly Arg Val Glu Leu Tyr His Ala Gly Gln Trp Gly Thr Val
290    295    300
Cys Asp Asp Gln Trp Asp Asp Ala Asp Ala Glu Val Ile Cys Arg Gln
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Leu Gly Leu Ser Gly Ile Ala Lys Ala Trp His Gln Ala Tyr Phe Gly
325    330    335

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Glu	Val	Tyr	Tyr	Arg	Gly	Gln	Trp	Gly	Thr	Val	Cys	Asp	Asp	Gly	Trp
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Thr	Glu	Leu	Asn	Thr	Tyr	Val	Val	Cys	Arg	Gln	Leu	Gly	Phe	Lys	Tyr
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Pro	Ile	His	Val	Asp	Asn	Val	Lys	Cys	Thr	Gly	Asn	Glu	Arg	Ser	Leu
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His	Arg	Arg	Gln	Lys	Arg	Ile	Ile	Gly	Gly	Lys	Asn	Ser	Leu	Arg	Gly
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Gly	Trp	Pro	Trp	Gln	Val	Ser	Leu	Arg	Leu	Lys	Ser	Ser	His	Gly	Asp
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Gly	Arg	Leu	Leu	Cys	Gly	Ala	Thr	Leu	Leu	Ser	Ser	Cys	Trp	Val	Leu
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Thr	Ala	Ala	His	Cys	Phe	Lys	Arg	Tyr	Gly	Asn	Ser	Thr	Arg	Ser	Tyr
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Ala	Val	Arg	Val	Gly	Asp	Tyr	His	Thr	Leu	Val	Pro	Glu	Glu	Phe	Glu
	690					695					700				
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Asp	Arg	Ser	Asp	Tyr	Asp	Ile	Ala	Leu	Val	Arg	Leu	Gln	Gly	Pro	Glu
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Glu	Gln	Cys	Ala	Arg	Phe	Ser	Ser	His	Val	Leu	Pro	Ala	Cys	Leu	Pro
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Leu	Trp	Arg	Glu	Arg	Pro	Gln	Lys	Thr	Ala	Ser	Asn	Cys	Tyr	Ile	Thr
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	770					775					780				
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785					790					795					800
Arg	Phe	Thr	Gly	Arg	Met	Leu	Cys	Ala	Gly	Asn	Leu	His	Glu	His	Lys
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Pro	Arg	Pro	Glu	His	Thr	Lys	Ser	Ile	Tyr	Thr	Arg	Ser	Val	Val	Glu		
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Ser	Ile	Ala	Ser	Pro	Ala	Val	Pro	Asn	Lys	Glu	Val	Thr	Pro	Pro	Ser		
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His	Arg	Asp	Ile	Lys	Ser	Asp	Asn	Ile	Leu	Leu	Gly	Met	Asp	Gly	Ser		
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Asn	Arg	Cys	Leu	Glu	Met	Asp	Val	Asp	Arg	Arg	Gly	Ser	Ala	Lys	Glu		
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ctt	ttg	cag	cat	cca	ttt	tta	aaa	tta	gcc	aag	cct	ctc	tcc	agc	ctg	1584	
Leu	Leu	Gln	His	Pro	Phe	Leu	Lys	Leu	Ala	Lys	Pro	Leu	Ser	Ser	Leu		
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 Arg Ser Ile Phe Pro Gly Gly Gly Asp Lys Thr Asn Lys Lys Lys Glu
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 Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp Phe Glu His Thr Ile
 65 70 75 80
 His Val Gly Phe Asp Ala Val Thr Gly Glu Phe Thr Gly Ile Pro Glu
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Ala Leu Pro Pro Glu Asp Pro Gly Pro Asp Pro Glu Ser Arg Trp Leu
                15                20                25

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Phe Leu Ser Ala Asn Ile Leu Pro Val Val Glu Arg Cys Met Gly Ala
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Met Gln Glu Gly Met Gln Met Val Lys Leu Arg Gly Gly Ser Lys Gly
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ctg gtc cgc ttc tac tac ctg gac gag cac cgc tcc tgc atc cgc tgg 662
Leu Val Arg Phe Tyr Tyr Leu Asp Glu His Arg Ser Cys Ile Arg Trp
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Arg Pro Ser Arg Lys Asn Glu Lys Ala Lys Ile Ser Ile Asp Ser Ile
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cag gag gtg agt gag ggg cgg cag tcg gag gtc ttc cag cgc tac cct 758
Gln Glu Val Ser Glu Gly Arg Gln Ser Glu Val Phe Gln Arg Tyr Pro
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gac ggc agc ttc gac ccc aac tgc tgc ttc agc atc tac cac ggc agc 806
Asp Gly Ser Phe Asp Pro Asn Cys Cys Phe Ser Ile Tyr His Gly Ser
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cac cgc gag tcg ctg gac ctg gtc tcc acc agc agc gag gtg gcg cgc 854
His Arg Glu Ser Leu Asp Leu Val Ser Thr Ser Ser Glu Val Ala Arg
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acc tgg gtc act ggc ctg cgc tac ctc atg gcc ggc atc agc gac gag 902
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                145                150                155

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Asp Ser Leu Ala Arg Arg Gln Arg Thr Arg Asp Gln Trp Leu Lys Gln
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acg ttt gac gag gcc gac aag aac ggg gat ggc agc ctg agc att ggc 998
Thr Phe Asp Glu Ala Asp Lys Asn Gly Asp Gly Ser Leu Ser Ile Gly
                175                180                185

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Glu Val Leu Gln Leu Leu His Lys Leu Asn Val Asn Leu Pro Arg Gln
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1142			
cgc cgg gac ctc tac ctg ctc atg ctg acc tac agc aac cac aag gac Arg Arg Asp Leu Tyr Leu Leu Met Leu Thr Tyr Ser Asn His Lys Asp 240	245	250	1190
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gaa acc atc aac aaa tat gcc ttc atc aag aat gag tac cca gtg atc Glu Thr Ile Asn Lys Tyr Ala Phe Ile Lys Asn Glu Tyr Pro Val Ile 400	405	410	1670
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Lys Ile Leu Val Lys Gly Lys Lys Leu Pro Ala Asn Ile Ser Glu Asp	
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Asp Asp Cys Lys Leu Leu Asn Gly Asp Ala Ser Thr Asn Arg Lys Arg	
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Val Glu Asn Thr Ala Lys Arg Lys Leu Asp Ser Leu Ile Lys Glu Ser	
510 515 520	
aag att cgg gac tgt gag gac ccc aac aac ttc tcc gtc tcc aca ctg	2054
Lys Ile Arg Asp Cys Glu Asp Pro Asn Asn Phe Ser Val Ser Thr Leu	
525 530 535 540	
tcc cca tct gga aag ctc gga cgc aag agc aag gct gaa gag gac gtg	2102
Ser Pro Ser Gly Lys Leu Gly Arg Lys Ser Lys Ala Glu Glu Asp Val	
545 550 555	
gag tct ggg gag gat gcc ggg gcc agc aga cgc aat ggc cgc ctc gtc	2150
Glu Ser Gly Glu Asp Ala Gly Ala Ser Arg Arg Asn Gly Arg Leu Val	
560 565 570	
gtg gga agc ttc tcc agg cgc aag aag aag ggc agc aag ctg aag aag	2198
Val Gly Ser Phe Ser Arg Arg Lys Lys Lys Gly Ser Lys Leu Lys Lys	
575 580 585	
gcg gcc agc gtg gag gag gga gat gag ggt cag gac tcc ccg gga ggc	2246
Ala Ala Ser Val Glu Glu Gly Asp Glu Gly Gln Asp Ser Pro Gly Gly	
590 595 600	
cag agc cga ggg gcg acc cgg cag aag aag acc atg aag ctg tcc cgg	2294
Gln Ser Arg Gly Ala Thr Arg Gln Lys Lys Thr Met Lys Leu Ser Arg	
605 610 615 620	
gcc ctc tct gac ctg gtg aag tac acc aag tcc gtg gcc acc cac gac	2342
Ala Leu Ser Asp Leu Val Lys Tyr Thr Lys Ser Val Ala Thr His Asp	
625 630 635	
ata gag atg gag gcg gcg tcc agc tgg cag gtg tcg tcc ttc agc gag	2390
Ile Glu Met Glu Ala Ala Ser Ser Trp Gln Val Ser Ser Phe Ser Glu	
640 645 650	
acc aag gcc cac cag att ctg cag cag aag ccg gcg cag tac cta cgc	2438
Thr Lys Ala His Gln Ile Leu Gln Gln Lys Pro Ala Gln Tyr Leu Arg	
655 660 665	
ttc aac cag cag cag ctc tcc cgc atc tac ccc tcc tcc tac cgt gtg	2486
Phe Asn Gln Gln Gln Leu Ser Arg Ile Tyr Pro Ser Ser Tyr Arg Val	
670 675 680	

gac tcc agc aac tac aac ccg cag ccc ttc tgg aac gcc ggc tgc caa	2534
Asp Ser Ser Asn Tyr Asn Pro Gln Pro Phe Trp Asn Ala Gly Cys Gln	
685 690 695 700	
atg gtt gcc ctg aac tac cag tca gag ggg cgg atg ctg cag ctg aac	2582
Met Val Ala Leu Asn Tyr Gln Ser Glu Gly Arg Met Leu Gln Leu Asn	
705 710 715	
cga gcc aag ttc agc gcc aac ggt ggc tgc ggc tac gta ctc aag cct	2630
Arg Ala Lys Phe Ser Ala Asn Gly Gly Cys Gly Tyr Val Leu Lys Pro	
720 725 730	
ggg tgc atg tgc cag ggc gtg ttc aac ccc aac tcg gag gac ccc ctg	2678
Gly Cys Met Cys Gln Gly Val Phe Asn Pro Asn Ser Glu Asp Pro Leu	
735 740 745	
ccc ggg cag ctc aag aag cag ctg gtg ctc cgg atc atc agt ggc cag	2726
Pro Gly Gln Leu Lys Lys Gln Leu Val Leu Arg Ile Ile Ser Gly Gln	
750 755 760	
cag ctt ccc aag ccg cgc gac tcc atg ctg ggg gac cgt ggg gag atc	2774
Gln Leu Pro Lys Pro Arg Asp Ser Met Leu Gly Asp Arg Gly Glu Ile	
765 770 775 780	
atc gac ccc ttt gtg gag gtg gag atc att ggg ctc cct gtg gac tgc	2822
Ile Asp Pro Phe Val Glu Val Glu Ile Ile Gly Leu Pro Val Asp Cys	
785 790 795	
agc agg gag cag acc cgc gtg gtg gac gac aac ggg ttc aac ccc acc	2870
Ser Arg Glu Gln Thr Arg Val Val Asp Asp Asn Gly Phe Asn Pro Thr	
800 805 810	
tgg gag gag acc ctg gtt ttc atg gtg cac atg ccg gag atc gcg ctg	2918
Trp Glu Glu Thr Leu Val Phe Met Val His Met Pro Glu Ile Ala Leu	
815 820 825	
gtc cgc ttc ctc gtc tgg gac cac gat ccc atc ggg cgt gac ttc att	2966
Val Arg Phe Leu Val Trp Asp His Asp Pro Ile Gly Arg Asp Phe Ile	
830 835 840	
ggc cag agg acg ctg gcc ttc agc agc atg atg cca ggc tac aga cac	3014
Gly Gln Arg Thr Leu Ala Phe Ser Ser Met Met Pro Gly Tyr Arg His	
845 850 855 860	
gtg tac cta gaa ggg atg gaa gag gcc tcc atc ttc gtg cat gtg gct	3062
Val Tyr Leu Glu Gly Met Glu Glu Ala Ser Ile Phe Val His Val Ala	
865 870 875	
gtc agt gac atc agc ggt aag gtc aag cag gct ctg ggc cta aaa ggc	3110
Val Ser Asp Ile Ser Gly Lys Val Lys Gln Ala Leu Gly Leu Lys Gly	
880 885 890	
ctc ttc ctc cga ggc cca aag ccc ggc tcg ctg gac agt cat gct gct	3158
Leu Phe Leu Arg Gly Pro Lys Pro Gly Ser Leu Asp Ser His Ala Ala	
895 900 905	
ggg cgg ccc ccg gcc cgg ccc tcc gtt agc cag cgg atc ctg cgg cgc	3206
Gly Arg Pro Pro Ala Arg Pro Ser Val Ser Gln Arg Ile Leu Arg Arg	
910 915 920	
acg gcc agc gcc ccg acc aag agc cag aag ccg ggc cgc agg ggc ttc	3254

Thr	Ala	Ser	Ala	Pro	Thr	Lys	Ser	Gln	Lys	Pro	Gly	Arg	Arg	Gly	Phe	
925					930					935					940	
ccg	gag	ctg	gtc	ctg	ggg	aca	cgg	gac	aca	ggc	tcc	aag	ggg	gtg	gca	3302
Pro	Glu	Leu	Val	Leu	Gly	Thr	Arg	Asp	Thr	Gly	Ser	Lys	Gly	Val	Ala	
				945					950					955		
gac	gat	gtg	gtg	ccc	ccc	ggg	ccc	gga	cct	gct	ccg	gaa	gcc	cca	gcc	3350
Asp	Asp	Val	Val	Pro	Pro	Gly	Pro	Gly	Pro	Ala	Pro	Glu	Ala	Pro	Ala	
			960					965					970			
cag	gag	ggg	ccc	ggc	agc	ggc	agc	ccc	cga	ggg	aag	gcg	cca	gct	gcg	3398
Gln	Glu	Gly	Pro	Gly	Ser	Gly	Ser	Pro	Arg	Gly	Lys	Ala	Pro	Ala	Ala	
		975					980					985				
gtg	gca	gag	aag	agc	cct	gtg	cga	gtg	cgg	ccc	ccg	cgt	gtc	ctg	gac	3446
Val	Ala	Glu	Lys	Ser	Pro	Val	Arg	Val	Arg	Pro	Pro	Arg	Val	Leu	Asp	
	990						995					1000				
ggc	ccc	ggg	cct	gct	ggg	atg	gcc	gcc	aca	tgc	atg	aag	tgt	gtg	gtg	3494
Gly	Pro	Gly	Pro	Ala	Gly	Met	Ala	Ala	Thr	Cys	Met	Lys	Cys	Val	Val	
1005					1010					1015				1020		
gga	tcc	tgc	gcc	ggc	gtg	aac	acc	ggg	ggc	ctg	cag	agg	gag	cgg	cca	3542
Gly	Ser	Cys	Ala	Gly	Val	Asn	Thr	Gly	Gly	Leu	Gln	Arg	Glu	Arg	Pro	
				1025					1030					1035		
ccc	agc	ccg	ggg	cct	gca	agc	agg	cag	gca	gcc	att	cgc	cag	cag	ccc	3590
Pro	Ser	Pro	Gly	Pro	Ala	Ser	Arg	Gln	Ala	Ala	Ile	Arg	Gln	Gln	Pro	
			1040					1045				1050				
cgg	gcc	cgg	gct	gac	tca	ctg	ggg	gcc	ccc	tgc	tgt	ggc	ctg	gac	cct	3638
Arg	Ala	Arg	Ala	Asp	Ser	Leu	Gly	Ala	Pro	Cys	Cys	Gly	Leu	Asp	Pro	
		1055					1060					1065				
cac	gct	atc	ccg	ggg	aga	agc	aga	gag	gcc	ccc	aag	ggg	cct	ggg	gcc	3686
His	Ala	Ile	Pro	Gly	Arg	Ser	Arg	Glu	Ala	Pro	Lys	Gly	Pro	Gly	Ala	
	1070					1075					1080					
tgg	agg	cag	ggg	cca	ggc	ggg	agc	ggc	tcc	atg	tcc	tgc	gac	tcc	agc	3734
Trp	Arg	Gln	Gly	Pro	Gly	Gly	Ser	Gly	Ser	Met	Ser	Ser	Asp	Ser	Ser	
1085				1090					1095					1100		
agc	cca	gac	agc	ccg	ggc	atc	ccc	gaa	agg	tcc	ccc	cgc	tgg	cct	gag	3782
Ser	Pro	Asp	Ser	Pro	Gly	Ile	Pro	Glu	Arg	Ser	Pro	Arg	Trp	Pro	Glu	
				1105				1110						1115		
ggg	gcc	tgc	agg	caa	ccg	ggg	gcc	ctg	cag	gga	gag	atg	agt	gcc	ttg	3830
Gly	Ala	Cys	Arg	Gln	Pro	Gly	Ala	Leu	Gln	Gly	Glu	Met	Ser	Ala	Leu	
			1120				1125						1130			
ttt	gct	caa	aag	ctg	gag	gag	atc	agg	agt	aaa	tcc	ccc	atg	ttc	tcc	3878
Phe	Ala	Gln	Lys	Leu	Glu	Glu	Ile	Arg	Ser	Lys	Ser	Pro	Met	Phe	Ser	
		1135					1140					1145				
gcc	ggg	aag	ccc	ctc	ttg	ccc	tgc	gtg	gtc	ctc	ccg	cac	gcc	cct	ggc	3926
Ala	Gly	Lys	Pro	Leu	Leu	Pro	Cys	Val	Val	Leu	Pro	His	Ala	Pro	Gly	
	1150					1155					1160					

atg gct ggg cct ggg tca cct gct gct gct tct gcg tgg acg gtg tcg 3974
 Met Ala Gly Pro Gly Ser Pro Ala Ala Ala Ser Ala Trp Thr Val Ser
 1165 1170 1175 1180

cct cgt gtg ctc gtg ctc gtg gct ctg tat ccg tgg cac tgt ctc cgt 4022
 Pro Arg Val Leu Val Leu Val Ala Leu Tyr Pro Trp His Cys Leu Arg
 1185 1190 1195

ggc act ctg ctc cct tgg ctt gcc tgt ggc cca tag cccagccct 4068
 Gly Thr Leu Leu Pro Trp Leu Ala Cys Gly Pro *
 1200 1205

cctgtctgag cttgaggccc tgggacttgg gtggagctgg tttgaggccc gacaggctgg 4128
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 ctgatgcctt tcctgggact gggggccatg taccatccca ttcccacctc cctctagggc 4308
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 cccaggggct tcgctgcttt gggctgaagc accccactag aagggtgtct ccttagcctg 4488
 gagggagggg catacacgga gcccgcccca caccaccctg cccctccaga ccccccgtgac 4548
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 <212> PRT
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 Asn Ile Leu Pro Val Val Glu Arg Cys Met Gly Ala Met Gln Glu Gly
 35 40 45
 Met Gln Met Val Lys Leu Arg Gly Gly Ser Lys Gly Leu Val Arg Phe
 50 55 60
 Tyr Tyr Leu Asp Glu His Arg Ser Cys Ile Arg Trp Arg Pro Ser Arg
 65 70 75 80
 Lys Asn Glu Lys Ala Lys Ile Ser Ile Asp Ser Ile Gln Glu Val Ser
 85 90 95
 Glu Gly Arg Gln Ser Glu Val Phe Gln Arg Tyr Pro Asp Gly Ser Phe
 100 105 110
 Asp Pro Asn Cys Cys Phe Ser Ile Tyr His Gly Ser His Arg Glu Ser
 115 120 125
 Leu Asp Leu Val Ser Thr Ser Ser Glu Val Ala Arg Thr Trp Val Thr
 130 135 140
 Gly Leu Arg Tyr Leu Met Ala Gly Ile Ser Asp Glu Asp Ser Leu Ala
 145 150 155 160
 Arg Arg Gln Arg Thr Arg Asp Gln Trp Leu Lys Gln Thr Phe Asp Glu
 165 170 175
 Ala Asp Lys Asn Gly Asp Gly Ser Leu Ser Ile Gly Glu Val Leu Gln
 180 185 190
 Leu Leu His Lys Leu Asn Val Asn Leu Pro Arg Gln Arg Val Lys Gln
 195 200 205
 Met Phe Arg Glu Ala Asp Thr Asp Asp His Gln Gly Thr Leu Gly Phe
 210 215 220
 Glu Glu Phe Cys Ala Phe Tyr Lys Met Met Ser Thr Arg Arg Asp Leu
 225 230 235 240
 Tyr Leu Leu Met Leu Thr Tyr Ser Asn His Lys Asp His Leu Asp Ala
 245 250 255

Ala	Ser	Leu	Gln	Arg	Phe	Leu	Gln	Val	Glu	Gln	Lys	Met	Ala	Gly	Val
			260					265					270		
Thr	Leu	Glu	Ser	Cys	Gln	Asp	Ile	Ile	Glu	Gln	Phe	Glu	Pro	Cys	Pro
		275					280					285			
Glu	Asn	Lys	Ser	Lys	Gly	Leu	Leu	Gly	Ile	Asp	Gly	Phe	Thr	Asn	Tyr
	290					295					300				
Thr	Arg	Ser	Pro	Ala	Gly	Asp	Ile	Phe	Asn	Pro	Glu	His	His	His	Val
305					310					315					320
His	Gln	Asp	Met	Thr	Gln	Pro	Leu	Ser	His	Tyr	Phe	Ile	Thr	Ser	Ser
				325					330					335	
His	Asn	Thr	Tyr	Leu	Val	Gly	Asp	Gln	Leu	Met	Ser	Gln	Ser	Arg	Val
			340					345						350	
Asp	Met	Tyr	Ala	Trp	Val	Leu	Gln	Ala	Gly	Cys	Arg	Cys	Val	Glu	Val
	355						360					365			
Asp	Cys	Trp	Asp	Gly	Pro	Asp	Gly	Glu	Pro	Ile	Val	His	His	Gly	Tyr
	370					375					380				
Thr	Leu	Thr	Ser	Lys	Ile	Leu	Phe	Lys	Asp	Val	Ile	Glu	Thr	Ile	Asn
385					390					395					400
Lys	Tyr	Ala	Phe	Ile	Lys	Asn	Glu	Tyr	Pro	Val	Ile	Leu	Ser	Ile	Glu
			405						410					415	
Asn	His	Cys	Ser	Val	Ile	Gln	Gln	Lys	Lys	Met	Ala	Gln	Tyr	Leu	Thr
			420					425					430		
Asp	Ile	Leu	Gly	Asp	Lys	Leu	Asp	Leu	Ser	Ser	Val	Ser	Ser	Glu	Asp
	435						440					445			
Ala	Thr	Thr	Leu	Pro	Ser	Pro	Gln	Met	Leu	Lys	Gly	Lys	Ile	Leu	Val
	450					455					460				
Lys	Gly	Lys	Lys	Leu	Pro	Ala	Asn	Ile	Ser	Glu	Asp	Ala	Glu	Glu	Gly
465					470					475					480
Glu	Val	Ser	Asp	Glu	Asp	Ser	Ala	Asp	Glu	Ile	Asp	Asp	Asp	Cys	Lys
			485						490					495	
Leu	Leu	Asn	Gly	Asp	Ala	Ser	Thr	Asn	Arg	Lys	Arg	Val	Glu	Asn	Thr
		500						505					510		
Ala	Lys	Arg	Lys	Leu	Asp	Ser	Leu	Ile	Lys	Glu	Ser	Lys	Ile	Arg	Asp
	515						520					525			
Cys	Glu	Asp	Pro	Asn	Asn	Phe	Ser	Val	Ser	Thr	Leu	Ser	Pro	Ser	Gly
	530					535					540				
Lys	Leu	Gly	Arg	Lys	Ser	Lys	Ala	Glu	Glu	Asp	Val	Glu	Ser	Gly	Glu
545					550					555					560
Asp	Ala	Gly	Ala	Ser	Arg	Arg	Asn	Gly	Arg	Leu	Val	Val	Gly	Ser	Phe
			565						570					575	
Ser	Arg	Arg	Lys	Lys	Lys	Gly	Ser	Lys	Leu	Lys	Lys	Ala	Ala	Ser	Val
			580					585					590		
Glu	Glu	Gly	Asp	Glu	Gly	Gln	Asp	Ser	Pro	Gly	Gly	Gln	Ser	Arg	Gly
	595						600					605			
Ala	Thr	Arg	Gln	Lys	Lys	Thr	Met	Lys	Leu	Ser	Arg	Ala	Leu	Ser	Asp
	610					615						620			
Leu	Val	Lys	Tyr	Thr	Lys	Ser	Val	Ala	Thr	His	Asp	Ile	Glu	Met	Glu
625					630					635					640
Ala	Ala	Ser	Ser	Trp	Gln	Val	Ser	Ser	Phe	Ser	Glu	Thr	Lys	Ala	His
			645						650					655	
Gln	Ile	Leu	Gln	Gln	Lys	Pro	Ala	Gln	Tyr	Leu	Arg	Phe	Asn	Gln	Gln
		660						665					670		
Gln	Leu	Ser	Arg	Ile	Tyr	Pro	Ser	Ser	Tyr	Arg	Val	Asp	Ser	Ser	Asn
	675						680					685			
Tyr	Asn	Pro	Gln	Pro	Phe	Trp	Asn	Ala	Gly	Cys	Gln	Met	Val	Ala	Leu
	690					695					700				
Asn	Tyr	Gln	Ser	Glu	Gly	Arg	Met	Leu	Gln	Leu	Asn	Arg	Ala	Lys	Phe
705					710					715					720
Ser	Ala	Asn	Gly	Gly	Cys	Gly	Tyr	Val	Leu	Lys	Pro	Gly	Cys	Met	Cys
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Gln	Gly	Val	Phe	Asn	Pro	Asn	Ser	Glu	Asp	Pro	Leu	Pro	Gly	Gln	Leu

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 <213> Homo sapiens

<220>
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atg gaa cca aat ggc acc ttc agc aat aac aac agc agg aac tgc aca 96
 Met Glu Pro Asn Gly Thr Phe Ser Asn Asn Asn Ser Arg Asn Cys Thr
 20 25 30

att gaa aac ttc aag aga gaa ttt ttc cca att gta tat ctg ata ata 144
 Ile Glu Asn Phe Lys Arg Glu Phe Phe Pro Ile Val Tyr Leu Ile Ile
 35 40 45

ttt ttc tgg gga gtc ttg gga aat ggg ttg tcc ata tat gtt ttc ctg 192
 Phe Phe Trp Gly Val Leu Gly Asn Gly Leu Ser Ile Tyr Val Phe Leu
 50 55 60

cag cct tat aag aag tcc aca tct gtg aac gtt ttc atg cta aat ctg 240
 Gln Pro Tyr Lys Lys Ser Thr Ser Val Asn Val Phe Met Leu Asn Leu
 65 70 75 80

gcc att tca gat ctc ctg ttc ata agc acg ctt ccc ttc agg gct gac 288
 Ala Ile Ser Asp Leu Leu Phe Ile Ser Thr Leu Pro Phe Arg Ala Asp
 85 90 95

tat tat ctt aga ggc tcc aat tgg ata ttt gga gac ctg gcc tgc agg 336
 Tyr Tyr Leu Arg Gly Ser Asn Trp Ile Phe Gly Asp Leu Ala Cys Arg
 100 105 110

att atg tct tat tcc ttg tat gtc aac atg tac agc agt att tat ttc 384
 Ile Met Ser Tyr Ser Leu Tyr Val Asn Met Tyr Ser Ser Ile Tyr Phe
 115 120 125

ctg acc gtg ctg agt gtt gtg cgt ttc ctg gca atg gtt cac ccc ttt 432
 Leu Thr Val Leu Ser Val Val Arg Phe Leu Ala Met Val His Pro Phe
 130 135 140

cgg ctt ctg cat gtc acc agc atc agg agt gcc tgg atc ctc tgt ggg 480
 Arg Leu Leu His Val Thr Ser Ile Arg Ser Ala Trp Ile Leu Cys Gly
 145 150 155 160

atc ata tgg atc ctt atc atg gct tcc tca ata atg ctc ctg gac agt 528
 Ile Ile Trp Ile Leu Ile Met Ala Ser Ser Ile Met Leu Leu Asp Ser
 165 170 175

ggc tct gag cag aac ggc agt gtc aca tca tgc tta gag ctg aat ctc 576
 Gly Ser Glu Gln Asn Gly Ser Val Thr Ser Cys Leu Glu Leu Asn Leu
 180 185 190

tat aaa att gct aag ctg cag acc atg aac tat att gcc ttg gtg gtg 624
 Tyr Lys Ile Ala Lys Leu Gln Thr Met Asn Tyr Ile Ala Leu Val Val
 195 200 205

ggc tgc ctg ctg cca ttt ttc aca ctc agc atc tgt tat ctg ctg atc 672
 Gly Cys Leu Leu Pro Phe Phe Thr Leu Ser Ile Cys Tyr Leu Leu Ile
 210 215 220
 att cgg gtt ctg tta aaa gtg gag gtc cca gaa tcg ggg ctg cgg gtt 720
 Ile Arg Val Leu Leu Lys Val Glu Val Pro Glu Ser Gly Leu Arg Val
 225 230 235 240
 tct cac agg aag gca ctg acc acc atc atc atc acc ttg atc atc ttc 768
 Ser His Arg Lys Ala Leu Thr Thr Ile Ile Ile Thr Leu Ile Ile Phe
 245 250 255
 ttc ttg tgt ttc ctg ccc tat cac aca ctg agg acc gtc cac ttg acg 816
 Phe Leu Cys Phe Leu Pro Tyr His Thr Leu Arg Thr Val His Leu Thr
 260 265 270
 aca tgg aaa gtg ggt tta tgc aaa gac aga ctg cat aaa gct ttg gtt 864
 Thr Trp Lys Val Gly Leu Cys Lys Asp Arg Leu His Lys Ala Leu Val
 275 280 285
 atc aca ctg gcc ttg gca gca gcc aat gcc tgc ttc aat cct ctg ctc 912
 Ile Thr Leu Ala Leu Ala Ala Ala Asn Ala Cys Phe Asn Pro Leu Leu
 290 295 300
 tat tac ttt gct ggg gag aat ttt aag gac aga cta aag tct gca ctc 960
 Tyr Tyr Phe Ala Gly Glu Asn Phe Lys Asp Arg Leu Lys Ser Ala Leu
 305 310 315 320
 aga aaa ggc cat cca cag aag gca aag aca aag tgt gtt ttc cct gtt 1008
 Arg Lys Gly His Pro Gln Lys Ala Lys Thr Lys Cys Val Phe Pro Val
 325 330 335
 agt gtg tgg ttg aga aag gaa aca aga gta taa 1041
 Ser Val Trp Leu Arg Lys Glu Thr Arg Val *
 340 345

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 <212> PRT
 <213> Homo sapiens

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 20 25 30
 Ile Glu Asn Phe Lys Arg Glu Phe Phe Pro Ile Val Tyr Leu Ile Ile
 35 40 45
 Phe Phe Trp Gly Val Leu Gly Asn Gly Leu Ser Ile Tyr Val Phe Leu
 50 55 60
 Gln Pro Tyr Lys Lys Ser Thr Ser Val Asn Val Phe Met Leu Asn Leu
 65 70 75 80
 Ala Ile Ser Asp Leu Leu Phe Ile Ser Thr Leu Pro Phe Arg Ala Asp
 85 90 95
 Tyr Tyr Leu Arg Gly Ser Asn Trp Ile Phe Gly Asp Leu Ala Cys Arg
 100 105 110
 Ile Met Ser Tyr Ser Leu Tyr Val Asn Met Tyr Ser Ser Ile Tyr Phe
 115 120 125
 Leu Thr Val Leu Ser Val Val Arg Phe Leu Ala Met Val His Pro Phe

130	135	140
Arg Leu Leu His Val Thr Ser Ile Arg Ser Ala Trp Ile Leu Cys Gly		
145	150	155
Ile Ile Trp Ile Leu Ile Met Ala Ser Ser Ile Met Leu Leu Asp Ser		
	165	170
Gly Ser Glu Gln Asn Gly Ser Val Thr Ser Cys Leu Glu Leu Asn Leu		
	180	185
Tyr Lys Ile Ala Lys Leu Gln Thr Met Asn Tyr Ile Ala Leu Val Val		
	195	200
Gly Cys Leu Leu Pro Phe Phe Thr Leu Ser Ile Cys Tyr Leu Leu Ile		
	210	215
Ile Arg Val Leu Leu Lys Val Glu Val Pro Glu Ser Gly Leu Arg Val		
225	230	235
Ser His Arg Lys Ala Leu Thr Thr Ile Ile Thr Leu Ile Ile Phe		
	245	250
Phe Leu Cys Phe Leu Pro Tyr His Thr Leu Arg Thr Val His Leu Thr		
	260	265
Thr Trp Lys Val Gly Leu Cys Lys Asp Arg Leu His Lys Ala Leu Val		
	275	280
Ile Thr Leu Ala Leu Ala Ala Asn Ala Cys Phe Asn Pro Leu Leu		
	290	295
Tyr Tyr Phe Ala Gly Glu Asn Phe Lys Asp Arg Leu Lys Ser Ala Leu		
305	310	315
Arg Lys Gly His Pro Gln Lys Ala Lys Thr Lys Cys Val Phe Pro Val		
	325	330
Ser Val Trp Leu Arg Lys Glu Thr Arg Val		
	340	345

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 <213> Homo sapiens

<220>
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 Met Glu Pro Ser Pro Ala Ala Gly Gly Leu
 1 5 10

gag acc act cgc ctg gtg agc ccc cgg gac cgc ggt ggc gcc gga ggc 161
 Glu Thr Thr Arg Leu Val Ser Pro Arg Asp Arg Gly Gly Ala Gly Gly
 15 20 25

agc ctg cgt ttg aag agt ctc ttc aca gag ccc tca gag ccc ctc cct 209
 Ser Leu Arg Leu Lys Ser Leu Phe Thr Glu Pro Ser Glu Pro Leu Pro
 30 35 40

gag gag tcc aaa cct gtg gag atg ccc ttc cac cac tgc cac agg gac 257
 Glu Glu Ser Lys Pro Val Glu Met Pro Phe His His Cys His Arg Asp
 45 50 55

ccc ctt ccg ccg ccg ggc ctt acc cct gag agg ctg cat gca cgg agg 305
 Pro Leu Pro Pro Pro Gly Leu Thr Pro Glu Arg Leu His Ala Arg Arg
 60 65 70

cag cta tat gct gcc tgt gcc gtt tgc ttt gtc ttc atg gct ggg gag 353

Gln 75	Leu	Tyr	Ala	Ala	Cys 80	Ala	Val	Cys	Phe	Val 85	Phe	Met	Ala	Gly	Glu 90	
gtg Val	gtc Val	ggc Gly	ggg Gly	tat Tyr 95	ctg Leu	gca Ala	cac His	agc Ser	ctg Leu 100	gcc Ala	atc Ile	atg Met	acc Thr 105	gat Asp	gca Ala	401
gcc Ala	cac His	ttg Leu	ctg Leu 110	gcg Ala	gat Asp	gtg Val	ggc Gly	agc Ser 115	atg Met	atg Met	ggc Gly	agc Ser	ctc Leu 120	ttc Phe	tcc Ser	449
ctc Leu	tgg Trp 125	ctc Leu	tcc Ser	acc Thr	cgt Arg	cca Pro	gcc Ala 130	acc Thr	cgc Arg	acc Thr	atg Met	acc Thr 135	ttt Phe	ggc Gly	tgg Trp	497
cac His	cgt Arg 140	tca Ser	gag Glu	act Thr	ctg Leu	ggg Gly 145	gct Ala	ttg Leu	gcc Ala	tct Ser	gtg Val 150	gtc Val	tcc Ser	ctc Leu	tgg Trp	545
atg Met 155	gtc Val	act Thr	ggc Gly	atc Ile	ctc Leu 160	ctg Leu	tac Tyr	ctg Leu	gcc Ala	ttc Phe 165	gtc Val	cgc Arg	ctg Leu	ctg Leu	cac His 170	593
agc Ser	gac Asp	tac Tyr	cac His 205	atc Ile 175	gag Glu	ggg Gly	ggg Gly	gcc Ala 180	atg Met	ctg Leu	ctg Leu	acc Thr	gcc Ala 185	agc Ser	atc Ile	641
gca Ala	gtc Val	tgt Cys 190	gcc Ala	aac Asn	ctg Leu	tta Leu	atg Met	gcc Ala 195	ttt Phe	gtg Val	ctg Leu	cac His	cag Gln 200	gct Ala	ggg Gly	689
ccc Pro	ccc Pro	cac His 205	agc Ser	cac His	ggg Gly	tct Ser	agg Arg 210	gga Gly	gca Ala	gag Glu	tat Tyr	gca Ala 215	ccg Pro	ctg Leu	gag Glu	737
gag Glu	ggg Gly 220	cct Pro	gaa Glu	cag Gln	ccc Pro	ctg Leu 225	ccc Pro	ctg Leu	ggg Gly	aac Asn	acc Thr 230	agc Ser	gtc Val	cgg Arg	gcg Ala	785
gca Ala 235	ttt Phe	gtg Val	cac His	gtg Val	ctg Leu 240	ggg Gly	gac Asp	ctc Leu	ctg Leu	cag Gln 245	agc Ser	ttt Phe	ggg Gly	gta Val	ctg Leu 250	833
gct Ala	gcc Ala	tcc Ser	atc Ile	ctc Leu 255	atc Ile	tac Tyr	ttc Phe	aag Lys	cct Pro 260	caa Gln	tac Tyr	aag Lys	gca Ala 265	gcc Ala	gac Asp	881
ccc Pro	atc Ile	agc Ser	acc Thr 270	ttc Phe	ctc Leu	ttc Phe	tcc Ser	atc Ile 275	tgt Cys	gcc Ala	ctt Leu	gga Gly	tcc Ser 280	acc Thr	gct Ala	929
ccc Pro	acc Thr 285	ctc Leu	cga Arg	gac Asp	gtt Val	ctt Leu	cga Arg 290	atc Ile	ctc Leu	atg Met	gaa Glu	ggg Gly 295	acc Thr	ccc Pro	cgc Arg	977
aat Asn 300	gtg Val	ggg Gly	ttc Phe	gaa Glu	cct Pro	gtg Val 305	cgg Arg	gat Asp	acg Thr	ctg Leu 310	ttg Leu	tcg Ser	gtg Val	cca Pro	gga Gly	1025
gtc Val	cgg Arg	gca Ala	acc Thr	cat His	gag Glu	ctg Leu	cac His	ctg Leu	tgg Trp	gcc Ala	ctt Leu	acg Thr	ctc Leu	act Thr	tac Tyr	1073

315		320		325		330	
cat gtt gcc tct gca cac ctg gcc atc gac tcc acc gct gac cct gaa							1121
His Val Ala Ser Ala His Leu Ala Ile Asp Ser Thr Ala Asp Pro Glu							
	335			340		345	
gcc gtc ctg gct gaa gcc tca tcc cgg ctc tac tcc cgg ttt gga ttc							1169
Ala Val Leu Ala Glu Ala Ser Ser Arg Leu Tyr Ser Arg Phe Gly Phe							
	350			355		360	
tcc agc tgc acc ctg cag gtc gag cag tat cag ccg gag atg gcc cag							1217
Ser Ser Cys Thr Leu Gln Val Glu Gln Tyr Gln Pro Glu Met Ala Gln							
	365			370		375	
tgc ctg cgc tgc cag gaa ccc ccc caa gcc tga gccatggccc tgccctcacc							1270
Cys Leu Arg Cys Gln Glu Pro Pro Gln Ala *							

380	385
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ccactgccag gccgaggctc agccccagac tctcagcatc tgctgccctg atcacagaga	1330
cgggaccgag ccagggtcata ccccttccct ctctcccctc cctaccacct gccagtttcc	1390
ccagcctcag ccccagcccc agccccagtg ggcaagacca aagtgtggcg gggagtgggg	1450
tgggagtcag gggaatagat gtgactagtt caggggagggg gactcccagg cctcagtgtg	1510
gcagggtgtg ttgaaggcct gtggtgccat ctccccatgg ttcattgtgga gccacgaaca	1570
tcctttccct gcagtcatt tgtctgtgtg gcaggctggc tggctggggg catctgcctg	1630
tctatgtgct gttggtgtgc ctatgcctgg gggaggctcag tagggggccc ctccccacat	1690
ggccctcgct ctgtctatgc aggggcccc aagcccgcac tttgtccgtg tgtcttagcc	1750
ctgtgggtttt gtctgtgtgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gttcttggtg	1810
ctgtggcctg tgtgtctctg tgcctatgtg gctgtgctat ggtttctatg agtctgctcc	1870
atccatgtgt ctgtttgggg gtctatctct ccattccctct gttggtgctg tgcccttggc	1930
tatccctgaa agagggagga ctccgctgca gctccaccaa taaagttgtg tctcactgca	1990
aaaaaaaaaa	2000

<210> 42
 <211> 388
 <212> PRT
 <213> Homo sapiens

<400> 42
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 Ser Pro Arg Asp Arg Gly Gly Ala Gly Gly Ser Leu Arg Leu Lys Ser
 20 25 30
 Leu Phe Thr Glu Pro Ser Glu Pro Leu Pro Glu Glu Ser Lys Pro Val
 35 40 45
 Glu Met Pro Phe His His Cys His Arg Asp Pro Leu Pro Pro Pro Gly
 50 55 60
 Leu Thr Pro Glu Arg Leu His Ala Arg Arg Gln Leu Tyr Ala Ala Cys
 65 70 75 80
 Ala Val Cys Phe Val Phe Met Ala Gly Glu Val Val Gly Gly Tyr Leu
 85 90 95
 Ala His Ser Leu Ala Ile Met Thr Asp Ala Ala His Leu Leu Ala Asp
 100 105 110
 Val Gly Ser Met Met Gly Ser Leu Phe Ser Leu Trp Leu Ser Thr Arg
 115 120 125
 Pro Ala Thr Arg Thr Met Thr Phe Gly Trp His Arg Ser Glu Thr Leu
 130 135 140
 Gly Ala Leu Ala Ser Val Val Ser Leu Trp Met Val Thr Gly Ile Leu
 145 150 155 160
 Leu Tyr Leu Ala Phe Val Arg Leu Leu His Ser Asp Tyr His Ile Glu

55	60	65	70	
gat gat gga gag ttt gag aag ttc ttg gag gag ctc tgc aga atc ttg Asp Asp Gly Glu Phe Glu Lys Phe Leu Glu Glu Leu Cys Arg Ile Leu	75	80	85	414
aac tgc agt gaa aca gtg gtg gaa gac aga aaa cag gat ctc cag ggg Asn Cys Ser Glu Thr Val Val Glu Asp Arg Lys Gln Asp Leu Gln Gly	90	95	100	462
cat ctg cag aag gtg aag cct cag tgg ttt aac agg acc aca cac tgg His Leu Gln Lys Val Lys Pro Gln Trp Phe Asn Arg Thr Thr His Trp	105	110	115	510
tcc ttc ctg agc tcg ctc ttt ttc tgc tgc acg gtg ttc agc acc gtg Ser Phe Leu Ser Ser Leu Phe Phe Cys Cys Thr Val Phe Ser Thr Val	120	125	130	558
ggc tat ggc tac atc tac ccc gtc acc agg ctt ggc aag tac ttg tgc Gly Tyr Gly Tyr Ile Tyr Pro Val Thr Arg Leu Gly Lys Tyr Leu Cys	135	140	145	606
atg ctc tat gct ctc ttt ggt atc ccc ctg atg ttc ctc gtt ctc acg Met Leu Tyr Ala Leu Phe Gly Ile Pro Leu Met Phe Leu Val Leu Thr	155	160	165	654
gac aca ggc gac atc ctg gca acc atc tta tct aca tct tat aat cgg Asp Thr Gly Asp Ile Leu Ala Thr Ile Leu Ser Thr Ser Tyr Asn Arg	170	175	180	702
ttc cga aaa ttc cct ttc ttt acc cgc ccc ctc ctc tcc aag tgg tgc Phe Arg Lys Phe Pro Phe Phe Thr Arg Pro Leu Leu Ser Lys Trp Cys	185	190	195	750
ccc aaa tct ctc ttc aag aaa aaa ccg gac ccc aag ccc gca gat gaa Pro Lys Ser Leu Phe Lys Lys Lys Pro Asp Pro Lys Pro Ala Asp Glu	200	205	210	798
gct gtc cct cag atc atc atc agt gct gaa gag ctt cca ggc ccc aaa Ala Val Pro Gln Ile Ile Ile Ser Ala Glu Glu Leu Pro Gly Pro Lys	215	220	225	846
ctt ggc aca tgt cct tca cgc cca agc tgc agc atg gag ctg ttt gag Leu Gly Thr Cys Pro Ser Arg Pro Ser Cys Ser Met Glu Leu Phe Glu	235	240	245	894
aga tct cat gcg cta gag aaa cag aac aca ctg caa ctg ccc cca caa Arg Ser His Ala Leu Glu Lys Gln Asn Thr Leu Gln Leu Pro Pro Gln	250	255	260	942
gcc atg gag agg agt aac tcg tgt ccc gaa ctg gtg ttg gga aga ctc Ala Met Glu Arg Ser Asn Ser Cys Pro Glu Leu Val Leu Gly Arg Leu	265	270	275	990
tca tac tcc atc atc agc aac ctg gat gaa gtt gga cag cag gtg gag Ser Tyr Ser Ile Ile Ser Asn Leu Asp Glu Val Gly Gln Gln Val Glu	280	285	290	1038
agg ttg gac atc ccc ctc ccc atc att gcc ctt att gtt ttt gcc tac Arg Leu Asp Ile Pro Leu Pro Ile Ile Ala Leu Ile Val Phe Ala Tyr	295	300	305	1086

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att tcc tgt gca gct gcc atc ctc ccc ttc tgg gag aca cag ttg gat 1134
Ile Ser Cys Ala Ala Ala Ile Leu Pro Phe Trp Glu Thr Gln Leu Asp
315 320 325

ttc gag aat gcc ttc tat ttc tgc ttt gtc aca ctc acc acc att ggg 1182
Phe Glu Asn Ala Phe Tyr Phe Cys Phe Val Thr Leu Thr Thr Ile Gly
330 335 340

ttt ggg gat act gtt tta gaa cac cct aac ttc ttc ctg ttc ttc tcc 1230
Phe Gly Asp Thr Val Leu Glu His Pro Asn Phe Phe Leu Phe Phe Ser
345 350 355

att tat atc atc gtt gga atg gag att gtg ttc att gct ttc aag ttg 1278
Ile Tyr Ile Ile Val Gly Met Glu Ile Val Phe Ile Ala Phe Lys Leu
360 365 370

gtg caa aac agg ctg att gac ata tac aaa aat gtt atg cta ttc ttt 1326
Val Gln Asn Arg Leu Ile Asp Ile Tyr Lys Asn Val Met Leu Phe Phe
375 380 385 390

gca aaa ggg aag ttt tac cac ctt gtt aaa aag tga aggtttcatt 1372
Ala Lys Gly Lys Phe Tyr His Leu Val Lys Lys *
395 400

atctctcagg tgacagacac tggctgagct gggttttcttg tgttgctctt cagggtcatg 1432
cagcctgtca cctgagacct tcagtcttgg agacaaatcc cttatgagag ccaagttcag 1492
tcttgaggcc ctgc 1506

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<210> 44
<211> 401
<212> PRT
<213> Homo sapiens

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<400> 44
Met Leu Leu Pro Leu Pro Pro Ala Pro Leu Ala Leu His Ala Ser Gly
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Thr Met Glu Val Ser Gly His Pro Gln Ala Arg Arg Cys Cys Pro Glu
20 25 30
Ala Leu Gly Lys Leu Phe Pro Gly Leu Cys Phe Leu Cys Phe Leu Val
35 40 45
Thr Tyr Ala Leu Val Gly Ala Val Val Phe Ser Ala Ile Glu Asp Gly
50 55 60
Gln Val Leu Val Ala Ala Asp Asp Gly Glu Phe Glu Lys Phe Leu Glu
65 70 75 80
Glu Leu Cys Arg Ile Leu Asn Cys Ser Glu Thr Val Val Glu Asp Arg
85 90 95
Lys Gln Asp Leu Gln Gly His Leu Gln Lys Val Lys Pro Gln Trp Phe
100 105 110
Asn Arg Thr Thr His Trp Ser Phe Leu Ser Ser Leu Phe Cys Cys
115 120 125
Thr Val Phe Ser Thr Val Gly Tyr Gly Tyr Ile Tyr Pro Val Thr Arg
130 135 140
Leu Gly Lys Tyr Leu Cys Met Leu Tyr Ala Leu Phe Gly Ile Pro Leu
145 150 155 160
Met Phe Leu Val Leu Thr Asp Thr Gly Asp Ile Leu Ala Thr Ile Leu
165 170 175
Ser Thr Ser Tyr Asn Arg Phe Arg Lys Phe Pro Phe Phe Thr Arg Pro
180 185 190
Leu Leu Ser Lys Trp Cys Pro Lys Ser Leu Phe Lys Lys Lys Pro Asp
195 200 205

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	75	80	85	
tgg gat aac ttg cga gaa gcc acc tcc tac cct aat ttg tgc ctc cag	401			
Trp Asp Asn Leu Arg Glu Ala Thr Ser Tyr Pro Asn Leu Cys Leu Gln				
90 95 100				
aac tca gag tgg ctg ctc tta gat caa cac atg ctc aag gtg cat tac	449			
Asn Ser Glu Trp Leu Leu Leu Asp Gln His Met Leu Lys Val His Tyr				
105 110 115				
ccg aaa ttc gga gtg tca gaa gac tgc ctc tac ctg aac atc tat gcg	497			
Pro Lys Phe Gly Val Ser Glu Asp Cys Leu Tyr Leu Asn Ile Tyr Ala				
120 125 130				
cct gcc cac gcc gat aca ggc tcc aag ctc ccc gtc ttg gtg tgg ttc	545			
Pro Ala His Ala Asp Thr Gly Ser Lys Leu Pro Val Leu Val Trp Phe				
135 140 145 150				
cca gga ggt gcc ttc aag act ggc tca gcc tcc atc ttt gat ggg tcc	593			
Pro Gly Gly Ala Phe Lys Thr Gly Ser Ala Ser Ile Phe Asp Gly Ser				
155 160 165				
gcc ctg gct gcc tat gag gac gtg ctg gtt gtg gtc gtc cag tac cgg	641			
Ala Leu Ala Ala Tyr Glu Asp Val Leu Val Val Val Val Gln Tyr Arg				
170 175 180				
cta gga ata ttt ggt ttc ttc acc aca tgg gat cag cat gct ccg ggg	689			
Leu Gly Ile Phe Gly Phe Phe Thr Thr Trp Asp Gln His Ala Pro Gly				
185 190 195				
aac tgg gcc ttc aag gac cag gtg gct gct ctg tcc tgg gtc cag aag	737			
Asn Trp Ala Phe Lys Asp Gln Val Ala Ala Leu Ser Trp Val Gln Lys				
200 205 210				
aac atc gag ttc ttc ggt ggg gac ccc agc tct gtg acc atc ttt ggc	785			
Asn Ile Glu Phe Phe Gly Gly Asp Pro Ser Ser Val Thr Ile Phe Gly				
215 220 225 230				
gag tcc gcg gga gcc ata agt gtt tct agt ctt ata ctg tct ccc atg	833			
Glu Ser Ala Gly Ala Ile Ser Val Ser Ser Leu Ile Leu Ser Pro Met				
235 240 245				
gcc aaa ggc tta ttc cac aaa gcc atc atg gag agt ggg gtg gcc atc	881			
Ala Lys Gly Leu Phe His Lys Ala Ile Met Glu Ser Gly Val Ala Ile				
250 255 260				
atc cct tac ctg gag gcc cat gat tat gag aag agt gag gac ctg cag	929			
Ile Pro Tyr Leu Glu Ala His Asp Tyr Glu Lys Ser Glu Asp Leu Gln				
265 270 275				
gtg gtt gca cat ttc tgt ggt aac aat gcg tca gac tct gag gcc ctg	977			
Val Val Ala His Phe Cys Gly Asn Asn Ala Ser Asp Ser Glu Ala Leu				
280 285 290				
ctg agg tgc ctg agg aca aaa ccc tcc aag gag ctg ctg acc ctc agc	1025			
Leu Arg Cys Leu Arg Thr Lys Pro Ser Lys Glu Leu Leu Thr Leu Ser				
295 300 305 310				
cag aaa aca aag tct ttc act cga gtg gtt gat ggt gct ttc ttt cct	1073			
Gln Lys Thr Lys Ser Phe Thr Arg Val Val Asp Gly Ala Phe Phe Pro				
315 320 325				

aat gag cct cta gat cta ttg tct cag aaa gca ttt aaa gca att cct	1121
Asn Glu Pro Leu Asp Leu Leu Ser Gln Lys Ala Phe Lys Ala Ile Pro	
330 335 340	
tcc atc atc gga gtc aat aac cac gag tgt ggc ttc ctg ctg cct atg	1169
Ser Ile Ile Gly Val Asn Asn His Glu Cys Gly Phe Leu Leu Pro Met	
345 350 355	
aag gag gct cct gag atc ctc agt ggc tcc aac aag tcc ctt gcc ctc	1217
Lys Glu Ala Pro Glu Ile Leu Ser Gly Ser Asn Lys Ser Leu Ala Leu	
360 365 370	
cat ctg ata caa aac atc ctg cac atc ccg cct cag tat ttg cac ctt	1265
His Leu Ile Gln Asn Ile Leu His Ile Pro Pro Gln Tyr Leu His Leu	
375 380 385 390	
gtg gct aat gaa tac ttc cat gac aag cac tcc ctg act gaa atc cga	1313
Val Ala Asn Glu Tyr Phe His Asp Lys His Ser Leu Thr Glu Ile Arg	
395 400 405	
gac agt ctt ctg gac ttg ctt gga gat gtg ttc ttt gtg gtc cct gca	1361
Asp Ser Leu Leu Asp Leu Leu Gly Asp Val Phe Phe Val Val Pro Ala	
410 415 420	
ctg atc aca gct cga tat cac aga gat gct ggt gca cct gtc tac ttc	1409
Leu Ile Thr Ala Arg Tyr His Arg Asp Ala Gly Ala Pro Val Tyr Phe	
425 430 435	
tat gag ttt cgg cac cgg cct cag tgc ttt gaa gac acg aag ccg gct	1457
Tyr Glu Phe Arg His Arg Pro Gln Cys Phe Glu Asp Thr Lys Pro Ala	
440 445 450	
ttt gtc aaa gcc gac cac gct gat gaa gtc cgc ttt gtg ttc ggt ggt	1505
Phe Val Lys Ala Asp His Ala Asp Glu Val Arg Phe Val Phe Gly Gly	
455 460 465 470	
gcc ttc ctg aag ggg gac att gtt atg ttc gaa gga gcc acg gag gag	1553
Ala Phe Leu Lys Gly Asp Ile Val Met Phe Glu Gly Ala Thr Glu Glu	
475 480 485	
gag aag tta ctg agc cgg aag atg atg aaa tac tgg gct acc ttt gct	1601
Glu Lys Leu Leu Ser Arg Lys Met Met Lys Tyr Trp Ala Thr Phe Ala	
490 495 500	
cga acc ggg aat cct aat ggg aac gac ctg tct ctg tgg cca gct tat	1649
Arg Thr Gly Asn Pro Asn Gly Asn Asp Leu Ser Leu Trp Pro Ala Tyr	
505 510 515	
aat ctg act gag cag tac ctc cag ctg gac ttg aac atg agc ctc gga	1697
Asn Leu Thr Glu Gln Tyr Leu Gln Leu Asp Leu Asn Met Ser Leu Gly	
520 525 530	
cag aga ctc aaa gaa ccg cgg gtg gat ttt tgg acc agc acc atc ccc	1745
Gln Arg Leu Lys Glu Pro Arg Val Asp Phe Trp Thr Ser Thr Ile Pro	
535 540 545 550	
ctg atc ctg tct gcc tcc gac atg ctc cac agt cct ctt tct tcc tta	1793
Leu Ile Leu Ser Ala Ser Asp Met Leu His Ser Pro Leu Ser Ser Leu	
555 560 565	

act ttc ctc tct ctc ctc cag cct ttc ttt ttc ttt tgt gct cct tga 1841
 Thr Phe Leu Ser Leu Leu Gln Pro Phe Phe Phe Phe Cys Ala Pro *
 570 575 580

gaagttatct ttctgtgatt ttgggtttccc ttctcctccc ataatttctc ccgcaatcat 1901
 tagcttcttt ctgagctcag ctgctttcta tggggatcct tgcaaaacaa gctgctttcg 1961
 ctgatatttt atggacttag gaatgatcct tacagaattc ttttcaacat caaaaagtgc 2021
 aatttgtctt ggaaggcaac aagatttctt caataaattt ggaagagggc tggcctatta 2081
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 aaaaaaaaaa aaaaaaa 2158

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 <212> PRT
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 Ser Ala Glu Gly Pro Gln Arg Asn Thr Arg Leu Gly Trp Ile Gln Gly
 35 40 45
 Lys Gln Val Thr Val Leu Gly Ser Pro Val Pro Val Asn Val Phe Leu
 50 55 60
 Gly Val Pro Phe Ala Ala Pro Pro Leu Gly Ser Leu Arg Phe Thr Asn
 65 70 75 80
 Pro Gln Pro Ala Ser Pro Trp Asp Asn Leu Arg Glu Ala Thr Ser Tyr
 85 90 95
 Pro Asn Leu Cys Leu Gln Asn Ser Glu Trp Leu Leu Leu Asp Gln His
 100 105 110
 Met Leu Lys Val His Tyr Pro Lys Phe Gly Val Ser Glu Asp Cys Leu
 115 120 125
 Tyr Leu Asn Ile Tyr Ala Pro Ala His Ala Asp Thr Gly Ser Lys Leu
 130 135 140
 Pro Val Leu Val Trp Phe Pro Gly Gly Ala Phe Lys Thr Gly Ser Ala
 145 150 155 160
 Ser Ile Phe Asp Gly Ser Ala Leu Ala Ala Tyr Glu Asp Val Leu Val
 165 170 175
 Val Val Val Gln Tyr Arg Leu Gly Ile Phe Gly Phe Phe Thr Thr Trp
 180 185 190
 Asp Gln His Ala Pro Gly Asn Trp Ala Phe Lys Asp Gln Val Ala Ala
 195 200 205
 Leu Ser Trp Val Gln Lys Asn Ile Glu Phe Phe Gly Gly Asp Pro Ser
 210 215 220
 Ser Val Thr Ile Phe Gly Glu Ser Ala Gly Ala Ile Ser Val Ser Ser
 225 230 235 240
 Leu Ile Leu Ser Pro Met Ala Lys Gly Leu Phe His Lys Ala Ile Met
 245 250 255
 Glu Ser Gly Val Ala Ile Ile Pro Tyr Leu Glu Ala His Asp Tyr Glu
 260 265 270
 Lys Ser Glu Asp Leu Gln Val Val Ala His Phe Cys Gly Asn Asn Ala
 275 280 285
 Ser Asp Ser Glu Ala Leu Leu Arg Cys Leu Arg Thr Lys Pro Ser Lys
 290 295 300
 Glu Leu Leu Thr Leu Ser Gln Lys Thr Lys Ser Phe Thr Arg Val Val
 305 310 315 320
 Asp Gly Ala Phe Phe Pro Asn Glu Pro Leu Asp Leu Leu Ser Gln Lys
 325 330 335
 Ala Phe Lys Ala Ile Pro Ser Ile Ile Gly Val Asn Asn His Glu Cys
 340 345 350

Gly	Phe	Leu	Leu	Pro	Met	Lys	Glu	Ala	Pro	Glu	Ile	Leu	Ser	Gly	Ser
		355					360					365			
Asn	Lys	Ser	Leu	Ala	Leu	His	Leu	Ile	Gln	Asn	Ile	Leu	His	Ile	Pro
	370					375					380				
Pro	Gln	Tyr	Leu	His	Leu	Val	Ala	Asn	Glu	Tyr	Phe	His	Asp	Lys	His
	385				390					395					400
Ser	Leu	Thr	Glu	Ile	Arg	Asp	Ser	Leu	Leu	Asp	Leu	Leu	Gly	Asp	Val
			405						410					415	
Phe	Phe	Val	Val	Pro	Ala	Leu	Ile	Thr	Ala	Arg	Tyr	His	Arg	Asp	Ala
		420						425					430		
Gly	Ala	Pro	Val	Tyr	Phe	Tyr	Glu	Phe	Arg	His	Arg	Pro	Gln	Cys	Phe
		435					440					445			
Glu	Asp	Thr	Lys	Pro	Ala	Phe	Val	Lys	Ala	Asp	His	Ala	Asp	Glu	Val
	450					455					460				
Arg	Phe	Val	Phe	Gly	Gly	Ala	Phe	Leu	Lys	Gly	Asp	Ile	Val	Met	Phe
	465				470					475					480
Glu	Gly	Ala	Thr	Glu	Glu	Glu	Lys	Leu	Leu	Ser	Arg	Lys	Met	Met	Lys
			485						490					495	
Tyr	Trp	Ala	Thr	Phe	Ala	Arg	Thr	Gly	Asn	Pro	Asn	Gly	Asn	Asp	Leu
		500						505					510		
Ser	Leu	Trp	Pro	Ala	Tyr	Asn	Leu	Thr	Glu	Gln	Tyr	Leu	Gln	Leu	Asp
	515						520					525			
Leu	Asn	Met	Ser	Leu	Gly	Gln	Arg	Leu	Lys	Glu	Pro	Arg	Val	Asp	Phe
	530					535					540				
Trp	Thr	Ser	Thr	Ile	Pro	Leu	Ile	Leu	Ser	Ala	Ser	Asp	Met	Leu	His
	545				550					555					560
Ser	Pro	Leu	Ser	Ser	Leu	Thr	Phe	Leu	Ser	Leu	Leu	Gln	Pro	Phe	Phe
			565					570						575	
Phe	Phe	Cys	Ala	Pro											
			580												

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<220>
 <221> CDS
 <222> (56)...(688)

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gcg aag ctc cgg gtg gct tac gag tac acg gaa gcc gag gac aag agc															106	
Ala	Lys	Leu	Arg	Val	Ala	Tyr	Glu	Tyr	Thr	Glu	Ala	Glu	Asp	Lys	Ser	
		5						10					15			
atc cgg ctc ggc ttg ttt ctc atc atc tcc ggc gtc gtg tcg ctc ttc															154	
Ile	Arg	Leu	Gly	Leu	Phe	Leu	Ile	Ile	Ser	Gly	Val	Val	Ser	Leu	Phe	
		20					25					30				
atc ttc ggc ttc tgc tgg ctg agt ccc gcg ctg cag gat ctg caa gcc															202	
Ile	Phe	Gly	Phe	Cys	Trp	Leu	Ser	Pro	Ala	Leu	Gln	Asp	Leu	Gln	Ala	
		35				40					45					
acg gag gcc aat tgc acg gtg ctg tcg gtg cag cag atc ggc gag gtg															250	
Thr	Glu	Ala	Asn	Cys	Thr	Val	Leu	Ser	Val	Gln	Gln	Ile	Gly	Glu	Val	
	50					55				60				65		

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Phe Glu Cys Thr Phe Thr Cys Gly Ala Asp Cys Arg Gly Thr Ser Gln
70 75 80

tac ccc tgc gtc cag gtc tac gtg aac aac tct gag tcc aac tct agg 346
Tyr Pro Cys Val Gln Val Tyr Val Asn Asn Ser Glu Ser Asn Ser Arg
85 90 95

gcg ctg ctg cac agc gac gag cac cag ctc ctg acc aac ccc aag tgc 394
Ala Leu Leu His Ser Asp Glu His Gln Leu Leu Thr Asn Pro Lys Cys
100 105 110

tcc tat atc cct ccc tgt aag aga gaa aat cag aag aat ttg gaa agt 442
Ser Tyr Ile Pro Pro Cys Lys Arg Glu Asn Gln Lys Asn Leu Glu Ser
115 120 125

gtc atg aat tgg caa cag tac tgg aaa gat gag att ggt tcc cag cca 490
Val Met Asn Trp Gln Gln Tyr Trp Lys Asp Glu Ile Gly Ser Gln Pro
130 135 140 145

ttt act tgc tat ttt aat caa cat caa aga cca gat gat gtg ctt ctg 538
Phe Thr Cys Tyr Phe Asn Gln His Gln Arg Pro Asp Asp Val Leu Leu
150 155 160

cat cgc act cat gat gag att gtc ctc ctg cat tgc ttc ctc tgg ccc 586
His Arg Thr His Asp Glu Ile Val Leu Leu His Cys Phe Leu Trp Pro
165 170 175

ctg gtg aca ttt gtg gtg ggc gtt ctc att gtg gtc ctg acc atc tgt 634
Leu Val Thr Phe Val Val Gly Val Leu Ile Val Val Leu Thr Ile Cys
180 185 190

gcc aag agc ttg gcg gtc aag gcg gaa gcc atg aag aag cgc aag ttc 682
Ala Lys Ser Leu Ala Val Lys Ala Glu Ala Met Lys Lys Arg Lys Phe
195 200 205

tct taa aggggaagga ggcttgtaga aagcaaagta cagaagctgt actcatcggc 738
Ser *
210

acgcgtccac ctgcggaacc tgtgtttcct ggcgcaggag atggacaggg ccacgacagg 798
gctctgagag gctcatccct cagtggcaac agaaacaggc acaactggaa gacttggaac 858
ctcaaagctt gtattccatc tgctgtagca atggctaaag ggtcaagatc ttagctgtat 918
ggagtaacta tttcagaaaa ccctataaga agttcatttt ctttcaaaag taacagtata 978
ttatttgtac agtgtagtat acaaaccatt atgattttatg ctacttaaaa atattaaaaat 1038
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aaaaaaaaa 1107

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<212> PRT
<213> Homo sapiens

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Ser Ile Arg Leu Gly Leu Phe Leu Ile Ile Ser Gly Val Val Ser Leu
20 25 30
Phe Ile Phe Gly Phe Cys Trp Leu Ser Pro Ala Leu Gln Asp Leu Gln
35 40 45

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Ala	Thr	Glu	Ala	Asn	Cys	Thr	Val	Leu	Ser	Val	Gln	Gln	Ile	Gly	Glu
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Val	Phe	Glu	Cys	Thr	Phe	Thr	Cys	Gly	Ala	Asp	Cys	Arg	Gly	Thr	Ser
65					70					75					80
Gln	Tyr	Pro	Cys	Val	Gln	Val	Tyr	Val	Asn	Asn	Ser	Glu	Ser	Asn	Ser
				85					90					95	
Arg	Ala	Leu	Leu	His	Ser	Asp	Glu	His	Gln	Leu	Leu	Thr	Asn	Pro	Lys
			100					105					110		
Cys	Ser	Tyr	Ile	Pro	Pro	Cys	Lys	Arg	Glu	Asn	Gln	Lys	Asn	Leu	Glu
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Ser	Val	Met	Asn	Trp	Gln	Gln	Tyr	Trp	Lys	Asp	Glu	Ile	Gly	Ser	Gln
			130				135					140			
Pro	Phe	Thr	Cys	Tyr	Phe	Asn	Gln	His	Gln	Arg	Pro	Asp	Asp	Val	Leu
145					150					155					160
Leu	His	Arg	Thr	His	Asp	Glu	Ile	Val	Leu	Leu	His	Cys	Phe	Leu	Trp
				165					170					175	
Pro	Leu	Val	Thr	Phe	Val	Val	Gly	Val	Leu	Ile	Val	Val	Leu	Thr	Ile
			180				185						190		
Cys	Ala	Lys	Ser	Leu	Ala	Val	Lys	Ala	Glu	Ala	Met	Lys	Lys	Arg	Lys
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Lys	Arg	Leu	Ser	Leu	Pro	Met	Asp	Ile	Arg	Leu	Pro	Gln	Glu	Phe	Leu	
1				5					10					15		
cag aag cta cag atg gag agc cca gat ctg ccc aag ccg ctc agc cgc															96	
Gln	Lys	Leu	Gln	Met	Glu	Ser	Pro	Asp	Leu	Pro	Lys	Pro	Leu	Ser	Arg	
			20					25					30			
atg tcc cgc cgg gcc tcc ctg tca gac att ggc ttt ggg aaa ctg gaa															144	
Met	Ser	Arg	Arg	Ala	Ser	Leu	Ser	Asp	Ile	Gly	Phe	Gly	Lys	Leu	Glu	
			35				40					45				
aca tac gtg aaa ctg gac aaa ctg gga gag ggc acc tat gcc aca gtc															192	
Thr	Tyr	Val	Lys	Leu	Asp	Lys	Leu	Gly	Glu	Gly	Thr	Tyr	Ala	Thr	Val	
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ttc aaa ggg cgc agc aaa ctg acg gag aac ctt gtg gcc ctg aaa gag															240	
Phe	Lys	Gly	Arg	Ser	Lys	Leu	Thr	Glu	Asn	Leu	Val	Ala	Leu	Lys	Glu	
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atc cgg ctg gag cac gag gag gga gcg ccc tgc act gcc atc cga gag															288	
Ile	Arg	Leu	Glu	His	Glu	Glu	Gly	Ala	Pro	Cys	Thr	Ala	Ile	Arg	Glu	
				85					90					95		
gtg tct ctg ctg aag aac ctg aag cac gcc aat att gtg acc ctg cat															336	
Val	Ser	Leu	Leu	Lys	Asn	Leu	Lys	His	Ala	Asn	Ile	Val	Thr	Leu	His	

100					105					110						
gac	ctc	atc	cac	aca	gat	cgg	tcc	ctc	acc	ctg	gtg	ttt	gag	tac	ctg	384
Asp	Leu	Ile	His	Thr	Asp	Arg	Ser	Leu	Thr	Leu	Val	Phe	Glu	Tyr	Leu	
		115					120					125				
gac	agt	gac	ctg	aag	cag	tat	ctg	gac	cac	tgt	ggg	aac	ctc	atg	agc	432
Asp	Ser	Asp	Leu	Lys	Gln	Tyr	Leu	Asp	His	Cys	Gly	Asn	Leu	Met	Ser	
	130					135					140					
atg	cac	aac	gtc	aag	att	ttc	atg	ttc	cag	ctg	ctc	cgg	ggc	ctc	gcc	480
Met	His	Asn	Val	Lys	Ile	Phe	Met	Phe	Gln	Leu	Leu	Arg	Gly	Leu	Ala	
145					150					155					160	
tac	tgt	cac	acc	cgc	aag	atc	ctg	cac	cgg	gac	ctg	aag	ccc	cag	aac	528
Tyr	Cys	His	Thr	Arg	Lys	Ile	Leu	His	Arg	Asp	Leu	Lys	Pro	Gln	Asn	
				165					170					175		
ctg	ctc	atc	aac	gag	agg	ggg	gag	ctg	aag	ctg	gcc	gac	ttt	gga	ctg	576
Leu	Leu	Ile	Asn	Glu	Arg	Gly	Glu	Leu	Lys	Leu	Ala	Asp	Phe	Gly	Leu	
		180					185						190			
gcc	agg	gcc	aag	tca	gtg	ccc	aca	aag	act	tac	tcc	aat	gag	gtg	gtg	624
Ala	Arg	Ala	Lys	Ser	Val	Pro	Thr	Lys	Thr	Tyr	Ser	Asn	Glu	Val	Val	
		195				200						205				
acc	ctg	tgg	tac	agg	ccc	ccc	gat	gtg	ctg	ctg	gga	tcc	aca	gag	tac	672
Thr	Leu	Trp	Tyr	Arg	Pro	Pro	Asp	Val	Leu	Leu	Gly	Ser	Thr	Glu	Tyr	
	210					215					220					
tcc	acc	ccc	att	gct	atg	tgg	ggc	gtg	ggc	tgc	atc	cac	tac	gag	atg	720
Ser	Thr	Pro	Ile	Ala	Met	Trp	Gly	Val	Gly	Cys	Ile	His	Tyr	Glu	Met	
225					230					235					240	
gcc	aca	ggg	agg	ccc	ctc	ttc	ccg	ggc	tcc	aca	gtc	aag	gag	gag	ctg	768
Ala	Thr	Gly	Arg	Pro	Leu	Phe	Pro	Gly	Ser	Thr	Val	Lys	Glu	Glu	Leu	
				245				250						255		
cac	ctc	atc	ttt	cgc	ctc	ctc	ggg	acc	ccc	aca	gaa	gag	acg	tgg	ccc	816
His	Leu	Ile	Phe	Arg	Leu	Leu	Gly	Thr	Pro	Thr	Glu	Glu	Thr	Trp	Pro	
		260					265						270			
ggc	gtg	acc	gcc	ttc	tct	gag	ttc	cgc	acc	tac	agc	ttc	ccc	tgc	tac	864
Gly	Val	Thr	Ala	Phe	Ser	Glu	Phe	Arg	Thr	Tyr	Ser	Phe	Pro	Cys	Tyr	
	275					280						285				
ctc	ccg	cag	ccg	ctc	atc	aac	cac	gcg	ccc	agg	ttg	gat	acg	gat	ggc	912
Leu	Pro	Gln	Pro	Leu	Ile	Asn	His	Ala	Pro	Arg	Leu	Asp	Thr	Asp	Gly	
	290				295					300						
atc	cac	ctc	ctg	agc	agc	ctg	ctc	gtg	tat	gaa	tcc	aag	agt	cgc	atg	960
Ile	His	Leu	Leu	Ser	Ser	Leu	Leu	Val	Tyr	Glu	Ser	Lys	Ser	Arg	Met	
305					310					315					320	
tca	gca	gag	gct	gcc	ctg	agt	cac	tcc	tac	ttc	cgg	tct	ctg	gga	gag	1008
Ser	Ala	Glu	Ala	Ala	Leu	Ser	His	Ser	Tyr	Phe	Arg	Ser	Leu	Gly	Glu	
				325					330					335		
cgt	gtg	cac	cag	ctt	gaa	gac	act	gcc	tcc	atc	ttc	tcc	ctg	aag	gag	1056
Arg	Val	His	Gln	Leu	Glu	Asp	Thr	Ala	Ser	Ile	Phe	Ser	Leu	Lys	Glu	
			340					345					350			

atc cag ctc cag aag gac cca ggc tac cga ggc ttg gcc ttc cag cag 1104
 ile gln leu gln lys asp pro gly tyr arg gly leu ala phe gln gln
 355 360 365

cca gga cga ggg aag aac agg cgg cag agc atc ttc tga gccacgccca 1153
 pro gly arg gly lys asn arg arg gln ser ile phe *
 370 375 380

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 tgtgtggccc tcggaggact gaacaacga 1242

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 20 25 30

 met ser arg arg ala ser leu ser asp ile gly phe gly lys leu glu
 35 40 45
 thr tyr val lys leu asp lys leu gly glu gly thr tyr ala thr val
 50 55 60
 phe lys gly arg ser lys leu thr glu asn leu val ala leu lys glu
 65 70 75 80
 ile arg leu glu his glu glu gly ala pro cys thr ala ile arg glu
 85 90 95
 val ser leu leu lys asn leu lys his ala asn ile val thr leu his
 100 105 110
 asp leu ile his thr asp arg ser leu thr leu val phe glu tyr leu
 115 120 125
 asp ser asp leu lys gln tyr leu asp his cys gly asn leu met ser
 130 135 140
 met his asn val lys ile phe met phe gln leu leu arg gly leu ala
 145 150 155 160
 tyr cys his thr arg lys ile leu his arg asp leu lys pro gln asn
 165 170 175
 leu leu ile asn glu arg gly glu leu lys leu ala asp phe gly leu
 180 185 190
 ala arg ala lys ser val pro thr lys thr tyr ser asn glu val val
 195 200 205
 thr leu trp tyr arg pro pro asp val leu leu gly ser thr glu tyr
 210 215 220
 ser thr pro ile ala met trp gly val gly cys ile his tyr glu met
 225 230 235 240
 ala thr gly arg pro leu phe pro gly ser thr val lys glu glu leu
 245 250 255
 his leu ile phe arg leu leu gly thr pro thr glu glu thr trp pro
 260 265 270
 gly val thr ala phe ser glu phe arg thr tyr ser phe pro cys tyr
 275 280 285
 leu pro gln pro leu ile asn his ala pro arg leu asp thr asp gly
 290 295 300
 ile his leu leu ser ser leu leu val tyr glu ser lys ser arg met
 305 310 315 320
 ser ala glu ala ala leu ser his ser tyr phe arg ser leu gly glu
 325 330 335

Arg	Val	His	Gln	Leu	Glu	Asp	Thr	Ala	Ser	Ile	Phe	Ser	Leu	Lys	Glu
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Ile	Gln	Leu	Gln_Lys	Asp	Pro	Gly	Tyr	Arg	Gly	Leu	Ala	Phe	Gln	Gln	
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						1				5					10		
ttg gat gct ggt gct gct gaa ccc att gcc agc cgg gcc tcc agg ctg															99		
Leu	Asp	Ala	Gly	Ala	Ala	Glu	Pro	Ile	Ala	Ser	Arg	Ala	Ser	Arg	Leu		
			15					20					25				
aat ctg ttc ttc cag ggg aaa cca ccc ttt atg act caa cag cag atg															147		
Asn	Leu	Phe	Phe	Gln	Gly	Lys	Pro	Pro	Phe	Met	Thr	Gln	Gln	Gln	Met		
		30					35					40					
tct cct ctt tcc cga gaa ggg ata tta gat gcc ctc ttt gtt ctc ttt															195		
Ser	Pro	Leu	Ser	Arg	Glu	Gly	Ile	Leu	Asp	Ala	Leu	Phe	Val	Leu	Phe		
	45					50					55						
gaa gaa tgc agt cag cct gct ctg atg aag att aag cac gtg agc aac															243		
Glu	Glu	Cys	Ser	Gln	Pro	Ala	Leu	Met	Lys	Ile	Lys	His	Val	Ser	Asn		
	60				65					70					75		
ttt gtc cgg aag tat tcc gac acc ata gct gag tta cag gag ctc cag															291		
Phe	Val	Arg	Lys	Tyr	Ser	Asp	Thr	Ile	Ala	Glu	Leu	Gln	Glu	Leu	Gln		
			80					85					90				
cct tcg gca aag gac ttc gaa gtc aga agt ctt gta ggt tgt ggt cac															339		
Pro	Ser	Ala	Lys	Asp	Phe	Glu	Val	Arg	Ser	Leu	Val	Gly	Cys	Gly	His		
			95					100					105				
ttt gct gaa gtg cag gtg gta aga gag aaa gca acc ggg gac atc tat															387		
Phe	Ala	Glu	Val	Gln	Val	Val	Arg	Glu	Lys	Ala	Thr	Gly	Asp	Ile	Tyr		
		110					115					120					
gct atg aaa gtg atg aag aag aag gct tta ttg gcc cag gag cag gtt															435		
Ala	Met	Lys	Val	Met	Lys	Lys	Lys	Ala	Leu	Leu	Ala	Gln	Glu	Gln	Val		
	125					130					135						
tca ttt ttt gag gaa gag cgg aac ata tta tct cga agc aca agc ccg															483		
Ser	Phe	Phe	Glu	Glu		Glu	Arg	Asn	Ile	Leu	Ser	Arg	Ser	Thr	Ser	Pro	
	140					145					150					155	
tgg atc ccc caa tta cag tat gcc ttt cag gac aaa aat cac ctt tat															531		
Trp	Ile	Pro	Gln	Leu	Gln	Tyr	Ala	Phe	Gln	Asp	Lys	Asn	His	Leu	Tyr		
			160						165						170		

ctg atg gag gaa tat cag cct gga ggg gac ttg ctg tca ctt ttg aat	579
Leu Met Glu Glu Tyr Gln Pro Gly Gly Asp Leu Leu Ser Leu Leu Asn	
175 180 185	
aga tat gag gac cag tta gat gaa aac ctg ata cag ttt tac cta gct	627
Arg Tyr Glu Asp Gln Leu Asp Glu Asn Leu Ile Gln Phe Tyr Leu Ala	
190 195 200	
gag ctg att ttg gct gtt cac agc gtt cat ctg atg gga tac gtg cat	675
Glu Leu Ile Leu Ala Val His Ser Val His Leu Met Gly Tyr Val His	
205 210 215	
cga gac atc aag cct gag aac att ctc gtt gac cgc aca gga cac atc	723
Arg Asp Ile Lys Pro Glu Asn Ile Leu Val Asp Arg Thr Gly His Ile	
220 225 230 235	
aag ctg gtg gat ttt gga tct gcc gcg aaa atg aat tca aac aag atg	771
Lys Leu Val Asp Phe Gly Ser Ala Ala Lys Met Asn Ser Asn Lys Met	
240 245 250	
gtg aat gcc aaa ctc ccg att ggg acc cca gat tac atg gct cct gaa	819
Val Asn Ala Lys Leu Pro Ile Gly Thr Pro Asp Tyr Met Ala Pro Glu	
255 260 265	
gtg ctg act gtg atg aac ggg gat gga aaa ggc acc tac ggc ctg gac	867
Val Leu Thr Val Met Asn Gly Asp Gly Lys Gly Thr Tyr Gly Leu Asp	
270 275 280	
tgt gac tgg tgg tca gtg ggc gtg att gcc tat gag atg att tat ggg	915
Cys Asp Trp Trp Ser Val Gly Val Ile Ala Tyr Glu Met Ile Tyr Gly	
285 290 295	
aga tcc ccc ttc gca gag gga acc tct gcc aga acc ttc aat aac att	963
Arg Ser Pro Phe Ala Glu Gly Thr Ser Ala Arg Thr Phe Asn Asn Ile	
300 305 310 315	
atg aat ttc cag cgg ttt ttg aaa ttt cca gat gac ccc aaa gtg agc	1011
Met Asn Phe Gln Arg Phe Leu Lys Phe Pro Asp Asp Pro Lys Val Ser	
320 325 330	
agt gac ttt ctt gat ctg att caa agc ttg ttg tgc ggc cag aaa gag	1059
Ser Asp Phe Leu Asp Leu Ile Gln Ser Leu Leu Cys Gly Gln Lys Glu	
335 340 345	
aga ctg aag ttt gaa ggt ctt tgc tgc cat cct ttc ttc tct aaa att	1107
Arg Leu Lys Phe Glu Gly Leu Cys Cys His Pro Phe Phe Ser Lys Ile	
350 355 360	
gac tgg aac aac att cgt aac tct cct ccc ccc ttc gtt ccc acc ctc	1155
Asp Trp Asn Asn Ile Arg Asn Ser Pro Pro Pro Phe Val Pro Thr Leu	
365 370 375	
aag tct gac gat gac acc tcc aat ttt gat gaa cca gag aag aat tcg	1203
Lys Ser Asp Asp Asp Thr Ser Asn Phe Asp Glu Pro Glu Lys Asn Ser	
380 385 390 395	
tgg gtt tca tcc tct ccg tgc cag ctg agc ccc tca ggc ttc tcg ggt	1251
Trp Val Ser Ser Ser Pro Cys Gln Leu Ser Pro Ser Gly Phe Ser Gly	
400 405 410	

gaa gaa ctg ccg ttt gtg ggg ttt tcg tac agc aag gca ctg ggg att	1299
Glu Glu Leu Pro Phe Val Gly Phe Ser Tyr Ser Lys Ala Leu Gly Ile	
415 420 425	
ctt ggt aga tct gag tct gtt gtg tcg ggt ctg gac tcc cct gcc aag	1347
Leu Gly Arg Ser Glu Ser Val Val Ser Gly Leu Asp Ser Pro Ala Lys	
430 435 440	
act agc tcc atg gaa aag aaa ctt ctc atc aaa agc aaa gag cta caa	1395
Thr Ser Ser Met Glu Lys Lys Leu Leu Ile Lys Ser Lys Glu Leu Gln	
445 450 455	
gac tct cag gac aag tgt cac aag atg gag cag gaa atg acc cgg tta	1443
Asp Ser Gln Asp Lys Cys His Lys Met Glu Gln Glu Met Thr Arg Leu	
460 465 470 475	
cat cgg aga gtg tca gag gtg gag gct gtg ctt agt cag aag gag gtg	1491
His Arg Arg Val Ser Glu Val Glu Ala Val Leu Ser Gln Lys Glu Val	
480 485 490	
gag ctg aag gcc tct gag act cag aga tcc ctc ctg gag cag gac ctt	1539
Glu Leu Lys Ala Ser Glu Thr Gln Arg Ser Leu Leu Glu Gln Asp Leu	
495 500 505	
gct acc tac atc aca gaa tgc agt agc tta aag cga agt ttg gag caa	1587
Ala Thr Tyr Ile Thr Glu Cys Ser Ser Leu Lys Arg Ser Leu Glu Gln	
510 515 520	
gca cgg atg gag gtg tcc cag gag gat gac aaa gca ctg cag ctt ctc	1635
Ala Arg Met Glu Val Ser Gln Glu Asp Asp Lys Ala Leu Gln Leu Leu	
525 530 535	
cat gat atc aga gag cag agc cgg aag ctc caa gaa atc aaa gag cag	1683
His Asp Ile Arg Glu Gln Ser Arg Lys Leu Gln Glu Ile Lys Glu Gln	
540 545 550 555	
gag tac cag gct caa gtg gaa gaa atg agg ttg atg atg aat cag ttg	1731
Glu Tyr Gln Ala Gln Val Glu Glu Met Arg Leu Met Met Asn Gln Leu	
560 565 570	
gaa gag gat ctt gtc tca gca aga aga cgg agt gat ctc tac gaa tct	1779
Glu Glu Asp Leu Val Ser Ala Arg Arg Arg Ser Asp Leu Tyr Glu Ser	
575 580 585	
gag ctg aga gag tct cgg ctt gct gct gaa gaa ttc aag cgg aaa gcg	1827
Glu Leu Arg Glu Ser Arg Leu Ala Ala Glu Glu Phe Lys Arg Lys Ala	
590 595 600	
aca gaa tgt cag cat aaa ctg ttg aag gct aag gat caa ggg aag cct	1875
Thr Glu Cys Gln His Lys Leu Leu Lys Ala Lys Asp Gln Gly Lys Pro	
605 610 615	
gaa gtg gga gaa tat gcg aaa ctg gag aag atc aat gct gag cag cag	1923
Glu Val Gly Glu Tyr Ala Lys Leu Glu Lys Ile Asn Ala Glu Gln Gln	
620 625 630 635	
ctc aaa att cag gag ctc caa gag aaa ctg gag aag gct gca aag gag	1971
Leu Lys Ile Gln Glu Leu Gln Glu Lys Leu Glu Lys Ala Ala Lys Glu	
640 645 650	
cga gcc gag agg gag ctg gag aag ctg cag aac cga gag gat tct tct	2019

Arg	Ala	Glu	Arg	Glu	Leu	Glu	Lys	Leu	Gln	Asn	Arg	Glu	Asp	Ser	Ser		
			655					660					665				
gaa	ggc	atc	aga	aag	aag	ctg	gtg	gaa	gct	gag	gaa	cgc	cgc	cat	tct	2067	
Glu	Gly	Ile	Arg	Lys	Lys	Leu	Val	Glu	Ala	Glu	Glu	Arg	Arg	His	Ser		
		670					675					680					
ctg	gag	aac	aag	gta	aag	aga	cta	gag	acc	atg	gag	cgt	aga	gaa	aac	2115	
Leu	Glu	Asn	Lys	Val	Lys	Arg	Leu	Glu	Thr	Met	Glu	Arg	Arg	Glu	Asn		
		685				690					695						
aga	ctg	aag	gat	gac	atc	cag	aca	aaa	tcc	caa	cag	atc	cag	cag	atg	2163	
Arg	Leu	Lys	Asp	Asp	Ile	Gln	Thr	Lys	Ser	Gln	Gln	Ile	Gln	Gln	Met		
700					705					710					715		
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Ala	Asp	Lys	Ile	Leu	Glu	Leu	Glu	Glu	Lys	His	Arg	Glu	Ala	Gln	Val		
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Gly	Ser	Ala	Ala 245	Lys	Met	Asn	Ser	Asn 250	Lys	Met	Val	Asn 255	Ala	Lys	Leu
Pro	Ile	Gly 260	Thr	Pro	Asp	Tyr	Met 265	Ala	Pro	Glu	Val	Leu 270	Thr	Val	Met
Asn	Gly 275	Asp	Gly	Lys	Gly	Thr	Tyr 280	Gly	Leu	Asp	Cys	Asp 285	Trp	Trp	Ser
Val	Gly 290	Val	Ile	Ala	Tyr	Glu 295	Met	Ile	Tyr	Gly 300	Arg	Ser	Pro	Phe	Ala
Glu 305	Gly	Thr	Ser	Ala 310	Arg	Thr	Phe	Asn	Asn 315	Ile	Met	Asn	Phe	Gln	Arg
Phe	Leu	Lys	Phe 325	Pro	Asp	Asp	Pro	Lys 330	Val	Ser	Ser	Asp	Phe	Leu	Asp
Leu	Ile	Gln 340	Ser	Leu	Leu	Cys	Gly 345	Gln	Lys	Glu	Arg	Leu 350	Lys	Phe	Glu
Gly	Leu 355	Cys	Cys	His	Pro	Phe	Phe 360	Ser	Lys	Ile	Asp 365	Trp	Asn	Asn	Ile
Arg	Asn 370	Ser	Pro	Pro	Pro	Phe 375	Val	Pro	Thr	Leu 380	Lys	Ser	Asp	Asp	Asp
Thr 385	Ser	Asn	Phe	Asp 390	Glu	Pro	Glu	Lys	Asn 395	Ser	Trp	Val	Ser	Ser	Ser
Pro	Cys	Gln	Leu 405	Ser	Pro	Ser	Gly	Phe 410	Ser	Gly	Glu	Glu	Leu	Pro	Phe
Val	Gly	Phe 420	Ser	Tyr	Ser	Lys	Ala 425	Leu	Gly	Ile	Leu	Gly 430	Arg	Ser	Glu
Ser	Val 435	Val	Ser	Gly	Leu	Asp	Ser 440	Pro	Ala	Lys	Thr 445	Ser	Ser	Met	Glu
Lys	Lys 450	Leu	Leu	Ile	Lys	Ser 455	Lys	Glu	Leu	Gln 460	Asp	Ser	Gln	Asp	Lys
Cys 465	His	Lys	Met	Glu 470	Gln	Glu	Met	Thr 475	Arg	Leu	His	Arg	Arg	Val	Ser

Glu	Val	Glu	Ala	Val	Leu	Ser	Gln	Lys	Glu	Val	Glu	Leu	Lys	Ala	Ser
				485					490					495	
Glu	Thr	Gln	Arg	Ser	Leu	Leu	Glu	Gln	Asp	Leu	Ala	Thr	Tyr	Ile	Thr
			500					505					510		
Glu	Cys	Ser	Ser	Leu	Lys	Arg	Ser	Leu	Glu	Gln	Ala	Arg	Met	Glu	Val
		515					520					525			
Ser	Gln	Glu	Asp	Asp	Lys	Ala	Leu	Gln	Leu	Leu	His	Asp	Ile	Arg	Glu
	530					535					540				
Gln	Ser	Arg	Lys	Leu	Gln	Glu	Ile	Lys	Glu	Gln	Glu	Tyr	Gln	Ala	Gln
545					550					555					560
Val	Glu	Glu	Met	Arg	Leu	Met	Met	Asn	Gln	Leu	Glu	Glu	Asp	Leu	Val
				565					570					575	
Ser	Ala	Arg	Arg	Arg	Ser	Asp	Leu	Tyr	Glu	Ser	Glu	Leu	Arg	Glu	Ser
			580					585					590		
Arg	Leu	Ala	Ala	Glu	Glu	Phe	Lys	Arg	Lys	Ala	Thr	Glu	Cys	Gln	His
		595					600					605			
Lys	Leu	Leu	Lys	Ala	Lys	Asp	Gln	Gly	Lys	Pro	Glu	Val	Gly	Glu	Tyr
	610					615					620				
Ala	Lys	Leu	Glu	Lys	Ile	Asn	Ala	Glu	Gln	Gln	Leu	Lys	Ile	Gln	Glu
625					630					635					640
Leu	Gln	Glu	Lys	Leu	Glu	Lys	Ala	Ala	Lys	Glu	Arg	Ala	Glu	Arg	Glu
				645						650				655	
Leu	Glu	Lys	Leu	Gln	Asn	Arg	Glu	Asp	Ser	Ser	Glu	Gly	Ile	Arg	Lys
			660					665					670		
Lys	Leu	Val	Glu	Ala	Glu	Glu	Arg	Arg	His	Ser	Leu	Glu	Asn	Lys	Val
		675					680					685			
Lys	Arg	Leu	Glu	Thr	Met	Glu	Arg	Arg	Glu	Asn	Arg	Leu	Lys	Asp	Asp
	690					695					700				
Ile	Gln	Thr	Lys	Ser	Gln	Gln	Ile	Gln	Gln	Met	Ala	Asp	Lys	Ile	Leu
705					710					715					720
Glu	Leu	Glu	Glu	Lys	His	Arg	Glu	Ala	Gln	Val	Ser	Ala	Gln	His	Leu
				725					730					735	
Glu	Val	His	Leu	Lys	Gln	Lys	Glu	Gln	His	Tyr	Glu	Glu	Lys	Ile	Lys
			740					745					750		
Val	Leu	Asp	Asn	Gln	Ile	Lys	Lys	Asp	Leu	Ala	Asp	Lys	Glu	Thr	Leu
		755					760					765			
Glu	Asn	Met	Met	Gln	Arg	His	Glu	Glu	Glu	Ala	His	Glu	Lys	Gly	Lys
	770					775					780				
Ile	Leu	Ser	Glu	Gln	Lys	Ala	Met	Ile	Asn	Ala	Met	Asp	Ser	Lys	Ile
785					790					795					800
Arg	Ser	Leu	Glu	Gln	Arg	Ile	Val	Glu	Leu	Ser	Glu	Ala	Asn	Lys	Leu
				805					810					815	
Ala	Ala	Asn	Ser	Ser	Leu	Phe	Thr	Gln	Arg	Asn	Met	Lys	Ala	Gln	Glu
			820					825					830		
Glu	Met	Ile	Ser	Glu	Leu	Arg	Gln	Gln	Lys	Phe	Tyr	Leu	Glu	Thr	Gln
		835						840				845			
Ala	Gly	Lys	Leu	Glu	Ala	Gln	Asn	Arg	Lys	Leu	Glu	Glu	Gln	Leu	Glu
	850					855					860				
Lys	Ile	Ser	His	Gln	Asp	His	Ser	Asp	Lys	Asn	Arg	Leu	Leu	Glu	Leu
865					870					875					880
Glu	Thr	Arg	Leu	Arg	Glu	Val	Ser	Leu	Glu	His	Glu	Glu	Gln	Lys	Leu
				885					890					895	
Glu	Leu	Lys	Arg	Gln	Leu	Thr	Glu	Leu	Gln	Leu	Ser	Leu	Gln	Glu	Arg
			900					905					910		
Glu	Ser	Gln	Leu	Thr	Ala	Leu	Gln	Ala	Ala	Arg	Ala	Ala	Leu	Glu	Ser
		915					920					925			
Gln	Leu	Arg	Gln	Ala	Lys	Thr	Glu	Leu	Glu	Glu	Thr	Thr	Ala	Glu	Ala
	930					935					940				
Glu	Glu	Glu	Ile	Gln	Ala	Leu	Thr	Ala	His	Arg	Asp	Glu	Ile	Gln	Arg
945					950					955					960
Lys	Phe	Asp	Ala	Leu	Arg	Asn	Ser	Cys	Thr	Val	Ile	Thr	Asp	Leu	Glu

965										970					975				
Glu	Gln	Leu	Asn	Gln	Leu	Thr	Glu	Asp	Asn	Ala	Glu	Leu	Asn	Asn	Gln				
980										985					990				
Asn	Phe	Tyr	Leu	Ser	Lys	Gln	Leu	Asp	Glu	Ala	Ser	Gly	Ala	Asn	Asp				
995										1000					1005				
Glu	Ile	Val	Gln	Leu	Arg	Ser	Glu	Val	Asp	His	Leu	Arg	Arg	Glu	Ile				
1010										1015					1020				
Thr	Glu	Arg	Glu	Met	Gln	Leu	Thr	Ser	Gln	Lys	Gln	Thr	Met	Glu	Ala				
1025										1030					1035				
Leu	Lys	Thr	Thr	Cys	Thr	Met	Leu	Glu	Glu	Gln	Val	Met	Asp	Leu	Glu				
1045										1050					1055				
Ala	Leu	Asn	Asp	Glu	Leu	Leu	Glu	Lys	Glu	Arg	Gln	Trp	Glu	Ala	Trp				
1060										1065					1070				
Arg	Ser	Val	Leu	Gly	Asp	Glu	Lys	Ser	Gln	Phe	Glu	Cys	Arg	Val	Arg				
1075										1080					1085				
Glu	Leu	Gln	Arg	Met	Leu	Asp	Thr	Glu	Lys	Gln	Ser	Arg	Ala	Arg	Ala				
1090										1095					1100				
Asp	Gln	Arg	Ile	Thr	Glu	Ser	Arg	Gln	Val	Val	Glu	Leu	Ala	Val	Lys				
1105										1110					1115				
Glu	His	Lys	Ala	Glu	Ile	Leu	Ala	Leu	Gln	Gln	Ala	Leu	Lys	Glu	Gln				
1125										1130					1135				
Lys	Leu	Lys	Ala	Glu	Ser	Leu	Ser	Asp	Lys	Leu	Asn	Asp	Leu	Glu	Lys				
1140										1145					1150				
Lys	His	Ala	Met	Leu	Glu	Met	Asn	Ala	Arg	Ser	Leu	Gln	Gln	Lys	Leu				
1155										1160					1165				
Glu	Thr	Glu	Arg	Glu	Leu	Lys	Gln	Arg	Leu	Leu	Glu	Glu	Gln	Ala	Lys				
1170										1175					1180				
Leu	Gln	Gln	Gln	Met	Asp	Leu	Gln	Lys	Asn	His	Ile	Phe	Arg	Leu	Thr				
1185										1190					1195				
Gln	Gly	Leu	Gln	Glu	Ala	Leu	Asp	Arg	Ala	Asp	Leu	Leu	Lys	Thr	Glu				
1205										1210					1215				
Arg	Ser	Asp	Leu	Glu	Tyr	Gln	Leu	Glu	Asn	Ile	Gln	Val	Leu	Tyr	Ser				
1220										1225					1230				
His	Glu	Lys	Val	Lys	Met	Glu	Gly	Thr	Ile	Ser	Gln	Gln	Thr	Lys	Leu				
1235										1240					1245				
Ile	Asp	Phe	Leu	Gln	Ala	Lys	Met	Asp	Gln	Pro	Ala	Lys	Lys	Lys	Lys				
1250										1255					1260				
Gly	Leu	Phe	Ser	Arg	Arg	Lys	Glu	Asp	Pro	Ala	Leu	Pro	Thr	Gln	Val				
1265										1270					1275				
Pro	Leu	Gln	Tyr	Asn	Glu	Leu	Lys	Leu	Ala	Leu	Glu	Lys	Glu	Lys	Ala				
1285										1290					1295				
Arg	Cys	Ala	Glu	Leu	Glu	Glu	Ala	Leu	Gln	Lys	Thr	Arg	Ile	Glu	Leu				
1300										1305					1310				
Arg	Ser	Ala	Arg	Glu	Glu	Ala	Ala	His	Arg	Lys	Ala	Thr	Asp	His	Pro				
1315										1320					1325				
His	Pro	Ser	Thr	Pro	Ala	Thr	Ala	Arg	Gln	Gln	Ile	Ala	Met	Ser	Ala				
1330										1335					1340				
Ile	Val	Arg	Ser	Pro	Glu	His	Gln	Pro	Ser	Ala	Met	Ser	Leu	Leu	Ala				
1345										1350					1355				
Pro	Pro	Ser	Ser	Arg	Arg	Lys	Glu	Ser	Ser	Thr	Pro	Glu	Glu	Phe	Ser				
1365										1370					1375				
Arg	Arg	Leu	Lys	Glu	Arg	Met	His	His	Asn	Ile	Pro	His	Arg	Phe	Asn				
1380										1385					1390				
Val	Gly	Leu	Asn	Met	Arg	Ala	Thr	Lys	Cys	Ala	Val	Cys	Leu	Asp	Thr				
1395										1400					1405				
Val	His	Phe	Gly	Arg	Gln	Ala	Ser	Lys	Cys	Leu	Glu	Cys	Gln	Val	Met				
1410										1415					1420				
Cys	His	Pro	Lys	Cys	Ser	Thr	Cys	Leu	Pro	Ala	Thr	Cys	Gly	Leu	Pro				
1425										1430					1435				
Ala	Glu	Tyr	Ala	Thr	His	Phe	Thr	Glu	Ala	Phe	Cys	Arg	Asp	Lys	Met				
1445										1450					1455				

Asn Ser Pro Gly Leu Gln Thr Lys Glu Pro Ser Ser Ser Leu His Leu
 1460 1465 1470
 Glu Gly Trp Met Lys Val Pro Arg Asn Asn Lys Arg Gly Gln Gln Gly
 1475 1480 1485
 Trp Asp Arg Lys Tyr Ile Val Leu Glu Gly Ser Lys Val Leu Ile Tyr
 1490 1495 1500
 Asp Asn Glu Ala Arg Glu Ala Gly Gln Arg Pro Val Glu Glu Phe Glu
 1505 1510 1515 1520
 Leu Cys Leu Pro Asp Gly Asp Val Ser Ile His Gly Ala Val Gly Ala
 1525 1530 1535
 Ser Glu Leu Ala Asn Thr Ala Lys Ala Glu Lys Ala Glu Ala Asp Ala
 1540 1545 1550
 Lys Leu Leu Gly Asn Ser Leu Leu Lys Leu Glu Gly Asp Asp Arg Leu
 1555 1560 1565
 Asp Met Asn Cys Thr Leu Pro Phe Ser Asp Gln Val Val Leu Val Gly
 1570 1575 1580
 Thr Glu Glu Gly Leu Tyr Ala Leu Asn Val Leu Lys Asn Ser Leu Thr
 1585 1590 1595 1600
 His Val Pro Gly Ile Gly Ala Val Phe Gln Ile Tyr Ile Ile Lys Asp
 1605 1610 1615
 Leu Glu Lys Leu Leu Met Ile Ala Gly Glu Glu Arg Ala Leu Cys Leu
 1620 1625 1630
 Val Asp Val Lys Lys Val Lys Gln Ser Leu Ala Gln Ser His Leu Pro
 1635 1640 1645
 Ala Gln Pro Asp Ile Ser Pro Asn Ile Phe Glu Ala Val Lys Gly Cys
 1650 1655 1660
 His Leu Phe Gly Ala Gly Lys Ile Glu Asn Gly Leu Cys Ile Cys Ala
 1665 1670 1675 1680
 Ala Met Pro Ser Lys Val Val Ile Leu Arg Tyr Asn Glu Asn Leu Ser
 1685 1690 1695
 Lys Tyr Cys Ile Arg Lys Glu Ile Glu Thr Ser Glu Pro Cys Ser Cys
 1700 1705 1710
 Ile His Phe Thr Asn Tyr Ser Ile Leu Ile Gly Thr Asn Lys Phe Tyr
 1715 1720 1725
 Glu Ile Asp Met Lys Gln Tyr Thr Leu Glu Glu Phe Leu Asp Lys Asn
 1730 1735 1740
 Asp His Ser Leu Ala Pro Ala Val Phe Ala Ala Ser Ser Asn Ser Phe
 1745 1750 1755 1760
 Pro Val Ser Ile Val Gln Val Asn Ser Ala Gly Gln Arg Glu Glu Tyr
 1765 1770 1775
 Leu Leu Cys Phe His Glu Phe Gly Val Phe Val Asp Ser Tyr Gly Arg
 1780 1785 1790
 Arg Ser Arg Thr Asp Asp Leu Lys Trp Ser Arg Leu Pro Leu Ala Phe
 1795 1800 1805
 Ala Tyr Arg Glu Pro Tyr Leu Phe Val Thr His Phe Asn Ser Leu Glu
 1810 1815 1820
 Val Ile Glu Ile Gln Ala Arg Ser Ser Ala Gly Thr Pro Ala Arg Ala
 1825 1830 1835 1840
 Tyr Leu Asp Ile Pro Asn Pro Arg Tyr Leu Gly Pro Ala Ile Ser Ser
 1845 1850 1855
 Gly Ala Ile Tyr Leu Ala Ser Ser Tyr Gln Asp Lys Leu Arg Val Ile
 1860 1865 1870
 Cys Cys Lys Gly Asn Leu Val Lys Glu Ser Gly Thr Glu His His Arg
 1875 1880 1885
 Gly Pro Ser Thr Ser Arg Ser Ser Pro Asn Lys Arg Gly Pro Pro Thr
 1890 1895 1900
 Tyr Asn Glu His Ile Thr Lys Arg Val Ala Ser Ser Pro Ala Pro Pro
 1905 1910 1915 1920
 Glu Gly Pro Ser His Pro Arg Glu Pro Ser Thr Pro His Arg Tyr Arg
 1925 1930 1935
 Glu Gly Arg Thr Glu Leu Arg Arg Asp Lys Ser Pro Gly Arg Pro Leu

90	95	100	105	
cac acc ttc cag ggc aca cag tgg gac cca aag aaa cat gtc cag gag				808
His Thr Phe Gln Gly Thr Gln Trp Asp Pro Lys Lys His Val Gln Glu	110	115	120	
atg cca acc gat gcc ttt ggc gac atc gtc ttc acg ggc ctg agc cag				856
Met Pro Thr Asp Ala Phe Gly Asp Ile Val Phe Thr Gly Leu Ser Gln	125	130	135	
aag gtg aaa aag tac gtc cga gtc tcc cag gac acg ccc tcc agc gtg				904
Lys Val Lys Lys Tyr Val Arg Val Ser Gln Asp Thr Pro Ser Ser Val	140	145	150	
atc tac cac ctc atg acc cag cac tgg ggg ctg gac gtc ccc aat ctc				952
Ile Tyr His Leu Met Thr Gln His Trp Gly Leu Asp Val Pro Asn Leu	155	160	165	
ttg atc tcg gtg acc ggg ggg gcc aag aac ttc aac atg aag ccg cgg				1000
Leu Ile Ser Val Thr Gly Gly Ala Lys Asn Phe Asn Met Lys Pro Arg	175	180	185	
ctg aag agc att ttc cgc aga ggc ctg gtc aag gtg gct cag acc aca				1048
Leu Lys Ser Ile Phe Arg Arg Gly Leu Val Lys Val Ala Gln Thr Thr	190	195	200	
ggg gcc tgg atc atc aca ggg ggg tcc cac acc ggc gtc atg aag cag				1096
Gly Ala Trp Ile Ile Thr Gly Gly Ser His Thr Gly Val Met Lys Gln	205	210	215	
gta ggc gag gcg gtg cgg gac ttc agc ctg agc agc agc tac aag gaa				1144
Val Gly Glu Ala Val Arg Asp Phe Ser Leu Ser Ser Ser Tyr Lys Glu	220	225	230	
ggc gag ctc atc acc atc gga gtc gcc acc tgg ggc act gtc cac cgc				1192
Gly Glu Leu Ile Thr Ile Gly Val Ala Thr Trp Gly Thr Val His Arg	235	240	245	
cgc gag ggc ctg atc cat ccc acg ggc agc ttc ccc gcc gag tac ata				1240
Arg Glu Gly Leu Ile His Pro Thr Gly Ser Phe Pro Ala Glu Tyr Ile	250	255	260	265
ctg gat gag gat ggc caa ggg aac ctg acc tgc cta gac agc aac cac				1288
Leu Asp Glu Asp Gly Gln Gly Asn Leu Thr Cys Leu Asp Ser Asn His	270	275	280	
tct cac ttc atc ctc gtg gac gac ggg acc cac ggc cag tac ggg gtg				1336
Ser His Phe Ile Leu Val Asp Asp Gly Thr His Gly Gln Tyr Gly Val	285	290	295	
gag att cct ctg agg acc agg ctg gag aag ttc ata tcg gag cag acc				1384
Glu Ile Pro Leu Arg Thr Arg Leu Glu Lys Phe Ile Ser Glu Gln Thr	300	305	310	
aag gaa aga gga ggt gtg gcc atc aag atc ccc atc gtg tgc gtg gtg				1432
Lys Glu Arg Gly Gly Val Ala Ile Lys Ile Pro Ile Val Cys Val Val	315	320	325	
ctg gag ggc ggc ccg ggc acg ttg cac acc atc gac aac gcc acc acc				1480
Leu Glu Gly Gly Pro Gly Thr Leu His Thr Ile Asp Asn Ala Thr Thr	330	335	340	345

aac ggc acc ccc tgt gtg gtt gtg gag ggc tcg ggc cgc gtg gcc gac	1528
Asn Gly Thr Pro Cys Val Val Val Glu Gly Ser Gly Arg Val Ala Asp	
350 355 360	
gtc att gcc cag gtg gcc aac ctg cct gtc tcg gac atc act atc tcc	1576
Val Ile Ala Gln Val Ala Asn Leu Pro Val Ser Asp Ile Thr Ile Ser	
365 370 375	
ctg atc cag cag aaa ctg agc gtg ttc ttc cag gag atg ttt gag acc	1624
Leu Ile Gln Gln Lys Leu Ser Val Phe Phe Gln Glu Met Phe Glu Thr	
380 385 390	
ttc acg gaa agc agg att gtc gag tgg acc aaa aag atc caa gat att	1672
Phe Thr Glu Ser Arg Ile Val Glu Trp Thr Lys Lys Ile Gln Asp Ile	
395 400 405	
gtc cgg agg cgg cag ctg ctg act gtc ttc cgg gaa ggc aag gat ggt	1720
Val Arg Arg Arg Gln Leu Leu Thr Val Phe Arg Glu Gly Lys Asp Gly	
410 415 420 425	
cag cag gac gtg gat gtg gcc atc ttg cag gcc ttg ctg aaa gcc tca	1768
Gln Gln Asp Val Asp Val Ala Ile Leu Gln Ala Leu Leu Lys Ala Ser	
430 435 440	
cgg agc caa gac cac ttt ggc cac gag aac tgg gac cac cag ctg aaa	1816
Arg Ser Gln Asp His Phe Gly His Glu Asn Trp Asp His Gln Leu Lys	
445 450 455	
ctg gca gtg gca tgg aat cgc gtg gac att gcc cgc agt gag atc ttc	1864
Leu Ala Val Ala Trp Asn Arg Val Asp Ile Ala Arg Ser Glu Ile Phe	
460 465 470	
atg gat gag tgg cag tgg aag cct tca gat ctg cac ccc acg atg aca	1912
Met Asp Glu Trp Gln Trp Lys Pro Ser Asp Leu His Pro Thr Met Thr	
475 480 485	
gct gca ctc atc tcc aac aag cct gag ttt gtg aag ctc ttc ctg gaa	1960
Ala Ala Leu Ile Ser Asn Lys Pro Glu Phe Val Lys Leu Phe Leu Glu	
490 495 500 505	
aac ggg gtg cag ctg aag gag ttt gtc acc tgg gac acc ttg ctc tac	2008
Asn Gly Val Gln Leu Lys Glu Phe Val Thr Trp Asp Thr Leu Leu Tyr	
510 515 520	
ctg tac gag aac ctg gac ccc tcc tgc ctg ttc cac agc aag ctg caa	2056
Leu Tyr Glu Asn Leu Asp Pro Ser Cys Leu Phe His Ser Lys Leu Gln	
525 530 535	
aag gtg ctg gtg gag gat ccc gag cgc ccg gct tgc gcg ccc gcg gcg	2104
Lys Val Leu Val Glu Asp Pro Glu Arg Pro Ala Cys Ala Pro Ala Ala	
540 545 550	
ccc cgc ctg cag atg cac cac gtg gcc cag gtg ctg cgg gag ctg ctg	2152
Pro Arg Leu Gln Met His His Val Ala Gln Val Leu Arg Glu Leu Leu	
555 560 565	
ggg gac ttc acg cag ccg ctt tat ccc cgg ccc cgg cac aac gac cgg	2200
Gly Asp Phe Thr Gln Pro Leu Tyr Pro Arg Pro Arg His Asn Asp Arg	
570 575 580 585	

ctg cgg ctc ctg ctg ccc gtt ccc cac gtc aag ctc aac gtg cag gga Leu Arg Leu Leu Leu Pro Val Pro His Val Lys Leu Asn Val Gln Gly 590 595 600	2248
gtg agc ctc cgg tcc ctc tac aag cgt tcc tca ggc cat gtg acc ttc Val Ser Leu Arg Ser Leu Tyr Lys Arg Ser Ser Gly His Val Thr Phe 605 610 615	2296
acc atg gac ccc atc cgt gac ctt ctc att tgg gcc att gtc cag aac Thr Met Asp Pro Ile Arg Asp Leu Leu Ile Trp Ala Ile Val Gln Asn 620 625 630	2344
cgt cgg gag ctg gca gga atc atc tgg gct cag agc cag gac tgc atc Arg Arg Glu Leu Ala Gly Ile Ile Trp Ala Gln Ser Gln Asp Cys Ile 635 640 645	2392
gca gcg gcc ttg gcc tgc agc aag atc ctg aag gaa ctg tcc aag gag Ala Ala Ala Leu Ala Cys Ser Lys Ile Leu Lys Glu Leu Ser Lys Glu 650 655 660 665	2440
gag gag gac acg gac agc tcg gag gag atg ctg gcg ctg gcg gag gag Glu Glu Asp Thr Asp Ser Ser Glu Glu Met Leu Ala Leu Ala Glu Glu 670 675 680	2488
tat gag cac aga gcc atc ggg gtc ttc acc gag tgc tac cgg aag gac Tyr Glu His Arg Ala Ile Gly Val Phe Thr Glu Cys Tyr Arg Lys Asp 685 690 695	2536
gaa gag aga gcc cag aaa ctg ctc acc cgc gtg tcc gag gcc tgg ggg Glu Glu Arg Ala Gln Lys Leu Leu Thr Arg Val Ser Glu Ala Trp Gly 700 705 710	2584
aag acc acc tgc ctg cag ctc gcc ctg gag gcc aag gac atg aag ttt Lys Thr Thr Cys Leu Gln Leu Ala Leu Glu Ala Lys Asp Met Lys Phe 715 720 725	2632
gtg tct cac ggg ggc atc cag gcc ttc ctg acc aag gtg tgg tgg ggc Val Ser His Gly Gly Ile Gln Ala Phe Leu Thr Lys Val Trp Trp Gly 730 735 740 745	2680
cag ctc tcc gtg gac aat ggg ctg tgg cgt gtg acc ctg tgc atg ctg Gln Leu Ser Val Asp Asn Gly Leu Trp Arg Val Thr Leu Cys Met Leu 750 755 760	2728
gcc ttc ccg ctg ctc ctc acc ggc ctc atc tcc ttc agg gag aag agg Ala Phe Pro Leu Leu Leu Thr Gly Leu Ile Ser Phe Arg Glu Lys Arg 765 770 775	2776
ctg cag gat gtg ggc acc ccc gcg gcc cgc gcc cgt gcc ttc ttc acc Leu Gln Asp Val Gly Thr Pro Ala Ala Arg Ala Arg Ala Phe Phe Thr 780 785 790	2824
gca ccc gtg gtg gtc ttc cac ctg aac atc ctc tcc tac ttc gcc ttc Ala Pro Val Val Val Phe His Leu Asn Ile Leu Ser Tyr Phe Ala Phe 795 800 805	2872
ctc tgc ctg ttc gcc tac gtg ctc atg gtg gac ttc cag cct gtg ccc Leu Cys Leu Phe Ala Tyr Val Leu Met Val Asp Phe Gln Pro Val Pro 810 815 820 825	2920
tcc tgg tgc gag tgt gcc atc tac ctc tgg ctc ttc tcc ttg gtg tgc	2968

Ser	Trp	Cys	Glu	Cys	Ala	Ile	Tyr	Leu	Trp	Leu	Phe	Ser	Leu	Val	Cys		
				830					835					840			
gag	gag	atg	cgg	cag	ctc	ttc	tat	gac	cct	gac	gag	tgc	ggg	ctg	atg	3016	
Glu	Glu	Met	Arg	Gln	Leu	Phe	Tyr	Asp	Pro	Asp	Glu	Cys	Gly	Leu	Met		
			845					850					855				
aag	aag	gca	gcc	ttg	tac	ttc	agt	gac	ttc	tgg	aat	aag	ctg	gac	gtc	3064	
Lys	Lys	Ala	Ala	Leu	Tyr	Phe	Ser	Asp	Phe	Trp	Asn	Lys	Leu	Asp	Val		
		860					865					870					
ggc	gca	atc	ttg	ctc	ttc	gtg	gca	ggg	ctg	acc	tgc	agg	ctc	atc	ccg	3112	
Gly	Ala	Ile	Leu	Leu	Phe	Val	Ala	Gly	Leu	Thr	Cys	Arg	Leu	Ile	Pro		
	875					880					885						
gcg	acg	ctg	tac	ccc	ggg	cgc	gtc	atc	ctc	tct	ctg	gac	ttc	atc	ctg	3160	
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Asp	Pro	Tyr	Lys	Pro	Lys	Cys	Pro	Glu	Ser	Asp	Ala	Thr	Gln	Gln	Arg		
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Val Leu Lys Thr Pro Ala Lys Arg His Lys Gln Leu Lys Asn Lys Leu	
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 Glu Phe Gly Ala His Tyr *
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Thr	Val	Phe	Arg	Glu	Gly	Lys	Asp	Gly	Gln	Gln	Asp	Val	Asp	Val	Ala
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Val	Ala	Gln	Val	Leu	Arg	Glu	Leu	Leu	Gly	Asp	Phe	Thr	Gln	Pro	Leu
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Tyr	Pro	Arg	Pro	Arg	His	Asn	Asp	Arg	Leu	Arg	Leu	Leu	Leu	Pro	Val
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Ala	Leu	Glu	Ala	Lys	Asp	Met	Lys	Phe	Val	Ser	His	Gly	Gly	Ile	Gln
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Ala	Phe	Leu	Thr	Lys	Val	Trp	Trp	Gly	Gln	Leu	Ser	Val	Asp	Asn	Gly
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Leu	Trp	Arg	Val	Thr	Leu	Cys	Met	Leu	Ala	Phe	Pro	Leu	Leu	Leu	Thr
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 Phe Lys Gly Pro Pro Val Asn Val Thr Cys Asn Ile Phe Ile Asn Ser

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Thr Thr Asp Asn Lys Leu Leu Arg Ile Phe Lys Asn Gly Asn Val Leu	145	150	155	160
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Tyr Ser Ile Arg Leu Thr Leu Thr Leu Ser Cys Pro Met Asp Leu Lys	165	170	175	
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Lys Arg Lys Asn Lys Asp Asp Glu Val Arg Glu Ser Arg Phe Ser Phe	
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Thr Ala Tyr Gly Met Gly Pro Cys Leu Gln Ala Lys Asp Gly Met Thr	
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Pro Lys Gly Pro Asn His Pro Val Gln Val Met Pro Lys Ser Pro Asp	
385 390 395 400	
gaa atg agg aag gtc ttt atc gac cgg gcc aag aag att gat acc atc	1668
Glu Met Arg Lys Val Phe Ile Asp Arg Ala Lys Lys Ile Asp Thr Ile	
405 410 415	
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Ser Arg Ala Cys Phe Pro Leu Ala Phe Leu Ile Phe Asn Ile Phe Tyr	
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tgg gtt atc tat aaa att ctt agg cat gag gat att cat cag cag caa	1764
Trp Val Ile Tyr Lys Ile Leu Arg His Glu Asp Ile His Gln Gln Gln	
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gat taa gtctctgggg gcatgcaaat gcaaattgggc aattcagaag aaagtgtctc	1820
Asp *	

tgccataggt gtgtatgtgt atatgtgtgc gtgtggtata caaatgatga ccattgtatt	1880
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agattctttt aatgaatata aaatatattat tagggggattc tatttccatat taattccagg	2000
tgatttgttt tttcacagta aaccatgtaa gtggaagctt tactgccaat gtgtttatat	2060
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acaatgaaaa caaaatggat tcatggaaga ttttttaata aaaaccattt tcccatcaat	2780
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caaaatctaa gccattcgca agatgtgaat aatttttaaa gaaattttta cataaaattt	2960
ttcaatgacc ccattgggatt acttcaacaa aaacagagca ttagtaactt gttttttgca	3020
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<211> 449

<212> PRT

<213> Homo sapiens

<400> 56

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Ser	Ala	Arg	Ser	Arg	Ser	Ala	Pro	Met	Ser	Pro	Ser	Asp	Phe	Leu	Asp
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Phe	Lys	Gly	Pro	Pro	Val	Asn	Val	Thr	Cys	Asn	Ile	Phe	Ile	Asn	Ser
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Phe	Gly	Ser	Ile	Ala	Glu	Thr	Thr	Met	Asp	Tyr	Arg	Val	Asn	Ile	Phe
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Leu	Arg	Gln	Lys	Trp	Asn	Asp	Pro	Arg	Leu	Ala	Tyr	Ser	Glu	Tyr	Pro
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Asp	Asp	Ser	Leu	Asp	Leu	Asp	Pro	Ser	Met	Leu	Asp	Ser	Ile	Trp	Lys
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Pro	Asp	Leu	Phe	Phe	Ala	Asn	Glu	Lys	Gly	Ala	Asn	Phe	His	Glu	Val
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Thr	Thr	Asp	Asn	Lys	Leu	Leu	Arg	Ile	Phe	Lys	Asn	Gly	Asn	Val	Leu
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Tyr	Ser	Ile	Arg	Leu	Thr	Leu	Thr	Leu	Ser	Cys	Pro	Met	Asp	Leu	Lys
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Asn	Phe	Pro	Met	Asp	Val	Gln	Thr	Cys	Ile	Met	Gln	Leu	Glu	Ser	Phe
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Gly	Ile	Thr	Thr	Val	Leu	Thr	Met	Thr	Thr	Gln	Ser	Ser	Gly	Ser	Arg
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Val	Asn	Phe	Val	Ser	Arg	Gln	His	Lys	Glu	Leu	Leu	Arg	Phe	Arg	Arg
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Lys	Arg	Lys	Asn	Lys	Asp	Asp	Glu	Val	Arg	Glu	Ser	Arg	Phe	Ser	Phe
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Pro	Lys	Gly	Pro	Asn	His	Pro	Val	Gln	Val	Met	Pro	Lys	Ser	Pro	Asp
385					390					395				400	
Glu	Met	Arg	Lys	Val	Phe	Ile	Asp	Arg	Ala	Lys	Lys	Ile	Asp	Thr	Ile
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Ser	Arg	Ala	Cys	Phe	Pro	Leu	Ala	Phe	Leu	Ile	Phe	Asn	Ile	Phe	Tyr
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Thr Ile Ile Arg Lys Phe Glu Gly Gln Ser Arg Lys Phe Leu Ile Ala
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Asn Ala Gln Met Glu Asn Cys Ala Ile Ile Tyr Cys Asn Asp Gly Phe
35 40 45

tgc gaa ctc ttc ggc tac tcc cga gtg gag gtg atg cag caa ccc tgc 192
Cys Glu Leu Phe Gly Tyr Ser Arg Val Glu Val Met Gln Gln Pro Cys
50 55 60

acc tgc gac ttc ctc aca ggc ccc aac aca cca agc agc gcc gtg tcc 240
Thr Cys Asp Phe Leu Thr Gly Pro Asn Thr Pro Ser Ser Ala Val Ser
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cgc cta gcg cag gcc ctg ctg ggg gct gag gag tgc aag gtg gac atc 288
Arg Leu Ala Gln Ala Leu Leu Gly Ala Glu Glu Cys Lys Val Asp Ile
85 90 95

ctc tac tac cgc aag gat gcc tcc agc ttc cgc tgc ctg gta gat gtg 336
Leu Tyr Tyr Arg Lys Asp Ala Ser Ser Phe Arg Cys Leu Val Asp Val
100 105 110

gtg ccc gtg aag aac gag gac ggg gct gtc atc atg ttc att ctc aac 384
Val Pro Val Lys Asn Glu Asp Gly Ala Val Ile Met Phe Ile Leu Asn
115 120 125

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Phe Glu Asp Leu Ala Gln Leu Leu Ala Lys Cys Ser Ser Arg Ser Leu
130 135 140

tcc cag cgc ctg ttg tcc cag agc ttc ctg ggc tcc gag ggc tct cat 480
Ser Gln Arg Leu Leu Ser Gln Ser Phe Leu Gly Ser Glu Gly Ser His
145 150 155 160

ggc agg cca ggc gga cca ggg cca ggc aca ggc agg ggc aag tac agg 528
Gly Arg Pro Gly Gly Pro Gly Pro Gly Thr Gly Arg Gly Lys Tyr Arg
165 170 175

acc atc agc cag atc cca cag ttc acg ctc aac ttc gtg gag ttc aac 576
Thr Ile Ser Gln Ile Pro Gln Phe Thr Leu Asn Phe Val Glu Phe Asn
180 185 190

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ccc cat aag gtg gtg gag cgg aca cag aac gtc act gag aag gtc acc Pro His Lys Val Val Glu Arg Thr Gln Asn Val Thr Glu Lys Val Thr 210 215 220	672
cag gtc ctg tcc ctg ggc gcg gat gtg ctg ccg gag tac aag ctg cag Gln Val Leu Ser Leu Gly Ala Asp Val Leu Pro Glu Tyr Lys Leu Gln 225 230 235 240	720
gcg ccg cgc atc cac cgc tgg acc atc ctg cac tac agc ccc ttc aag Ala Pro Arg Ile His Arg Trp Thr Ile Leu His Tyr Ser Pro Phe Lys 245 250 255	768
gcc gtg tgg gac tgg ctc atc ctg ctg ctg gtc atc tac acg gct gtc Ala Val Trp Asp Trp Leu Ile Leu Leu Leu Val Ile Tyr Thr Ala Val 260 265 270	816
ttc acg ccc tac tca gcc gcc ttc ctg ctc agc gac cag gac gaa tca Phe Thr Pro Tyr Ser Ala Ala Phe Leu Leu Ser Asp Gln Asp Glu Ser 275 280 285	864
cgg cgt ggg gcc tgc agc tat acc tgc agt ccc ctc act gtg gtg gat Arg Arg Gly Ala Cys Ser Tyr Thr Cys Ser Pro Leu Thr Val Val Asp 290 295 300	912
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Asn	Gly	Ile	Asp	Met	Asn	Ala	Val	Leu	Lys	Gly	Phe	Pro	Glu	Cys	Leu		
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Gln	Ala	Asp	Ile	Cys	Leu	His	Leu	His	Arg	Ala	Leu	Leu	Gln	His	Cys		
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Pro	Ala	Phe	Ser	Gly	Ala	Gly	Lys	Gly	Cys	Leu	Arg	Ala	Leu	Ala	Val		
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Ile	Leu	Arg	Asp	Asp	Val	Val	Val	Ala	Ile	Leu	Gly	Lys	Asn	Asp	Ile		
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Trp	Ser	Lys	Leu	Glu	Val	Thr	Phe	Asn	Leu	Arg	Asp	Ala	Ala	Gly	Gly	
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Phe	Phe	Leu	Ser	Asp	Asn	Gln	Ser	Asp	Ala	Ala	Pro	Pro	Leu	Ser	Ile	
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Ser	Asp	Ala	Ser	Gly	Leu	Trp	Pro	Glu	Leu	Leu	Gln	Glu	Met	Pro	Pro	
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Glu	Ser	Arg	Val	Ser	Ser	Asp	Leu	Ser	Arg	Ile	Leu	Gln	Leu	Leu	Gln	
				805					810					815		
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Lys	Pro	Met	Pro	Gln	Gly	His	Ala	Ser	Tyr	Ile	Leu	Glu	Ala	Pro	Ala	
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Ser	Asn	Asp	Leu	Ala	Leu	Val	Pro	Ile	Ala	Ser	Glu	Thr	Thr	Ser	Pro	
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Tyr	Gly	Asp	Leu	Asp	Asp	Cys	Ser	Pro	Lys	His	Arg	Asn	Ser	Ser	Pro	
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Leu	His	Pro	Leu	Glu	Val	Gln	Gly	Leu	Ile	Cys	Gly	Pro	Cys	Phe	Ser	
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 945 950 955

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 Leu Tyr Tyr Arg Lys Asp Ala Ser Ser Phe Arg Cys Leu Val Asp Val
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 Val Pro Val Lys Asn Glu Asp Gly Ala Val Ile Met Phe Ile Leu Asn
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 Ser Gln Arg Leu Leu Ser Gln Ser Phe Leu Gly Ser Glu Gly Ser His
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 Gly Arg Pro Gly Gly Pro Gly Pro Gly Thr Gly Arg Gly Lys Tyr Arg
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 Thr Ile Ser Gln Ile Pro Gln Phe Thr Leu Asn Phe Val Glu Phe Asn
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 Leu Glu Lys His Arg Ser Ser Ser Thr Thr Glu Ile Glu Ile Ile Ala
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 Pro His Lys Val Val Glu Arg Thr Gln Asn Val Thr Glu Lys Val Thr
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 Gln Val Leu Ser Leu Gly Ala Asp Val Leu Pro Glu Tyr Lys Leu Gln
 225 230 235 240
 Ala Pro Arg Ile His Arg Trp Thr Ile Leu His Tyr Ser Pro Phe Lys
 245 250 255
 Ala Val Trp Asp Trp Leu Ile Leu Leu Leu Val Ile Tyr Thr Ala Val
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 Phe Thr Pro Tyr Ser Ala Ala Phe Leu Leu Ser Asp Gln Asp Glu Ser
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 Arg Arg Gly Ala Cys Ser Tyr Thr Cys Ser Pro Leu Thr Val Val Asp
 290 295 300
 Leu Ile Val Asp Ile Met Phe Val Val Asp Ile Val Ile Asn Phe Arg
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Ala	Ile	Pro	Phe	Asp	Leu	Leu	Ile	Phe	Arg	Thr	Gly	Ser	Asp	Glu	Thr
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	370					375					380				
Arg	Val	Ala	Arg	Lys	Leu	Asp	Arg	Tyr	Ser	Glu	Tyr	Gly	Ala	Ala	Val
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Leu	Phe	Leu	Leu	Met	Cys	Thr	Phe	Ala	Leu	Ile	Ala	His	Trp	Leu	Ala
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Cys	Ile	Trp	Tyr	Ala	Ile	Gly	Asn	Val	Glu	Arg	Pro	Tyr	Leu	Glu	His
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Thr	Ala	Leu	Tyr	Phe	Thr	Phe	Ser	Ser	Leu	Thr	Ser	Val	Gly	Phe	Gly
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Asn	Val	Ser	Pro	Asn	Thr	Asn	Ser	Glu	Lys	Val	Phe	Ser	Ile	Cys	Val
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Ala	Ile	Ile	Gln	Arg	Leu	Tyr	Ser	Gly	Thr	Ala	Arg	Tyr	His	Thr	Gln
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Asn	Gly	Ile	Asp	Met	Asn	Ala	Val	Leu	Lys	Gly	Phe	Pro	Glu	Cys	Leu
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Gln	Ala	Asp	Ile	Cys	Leu	His	Leu	His	Arg	Ala	Leu	Leu	Gln	His	Cys
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Pro	Ala	Phe	Ser	Gly	Ala	Gly	Lys	Gly	Cys	Leu	Arg	Ala	Leu	Ala	Val
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Ile	Leu	Arg	Asp	Asp	Val	Val	Val	Ala	Ile	Leu	Gly	Lys	Asn	Asp	Ile
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Phe	Gly	Glu	Pro	Val	Ser	Leu	His	Ala	Gln	Pro	Gly	Lys	Ser	Ser	Ala
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Asp	Val	Arg	Ala	Leu	Thr	Tyr	Cys	Asp	Leu	His	Lys	Ile	Gln	Arg	Ala
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Trp	Ser	Lys	Leu	Glu	Val	Thr	Phe	Asn	Leu	Arg	Asp	Ala	Ala	Gly	Gly
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Leu	His	Ser	Ser	Pro	Arg	Gln	Ala	Pro	Gly	Ser	Gln	Asp	His	Gln	Gly
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Phe	Phe	Leu	Ser	Asp	Asn	Gln	Ser	Asp	Ala	Ala	Pro	Pro	Leu	Ser	Ile
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Glu	Ser	Arg	Val	Ser	Ser	Asp	Leu	Ser	Arg	Ile	Leu	Gln	Leu	Leu	Gln
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Ser	Asn	Asp	Leu	Ala	Leu	Val	Pro	Ile	Ala	Ser	Glu	Thr	Thr	Ser	Pro
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Gly	Pro	Arg	Leu	Pro	Gln	Gly	Phe	Leu	Pro	Pro	Ala	Gln	Thr	Pro	Ser
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Tyr	Gly	Asp	Leu	Asp	Asp	Cys	Ser	Pro	Lys	His	Arg	Asn	Ser	Ser	Pro
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Arg	Met	Pro	His	Leu	Ala	Val	Ala	Thr	Asp	Lys	Thr	Leu	Ala	Pro	Ser
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Ser	Glu	Gln	Glu	Gln	Pro	Glu	Gly	Leu	Trp	Pro	Pro	Leu	Ala	Ser	Pro
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 Met Glu Ala Phe Leu Cys Glu Val
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aca tca gct gtg cag gcc cca ctg gct gtg cgt gcc ctc tac aca cct 162
 Thr Ser Ala Val Gln Ala Pro Leu Ala Val Arg Ala Leu Tyr Thr Pro
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tgt cat ggc cac cct gtc acc aac ctg gca gac ttg aag aac aga ggg 210
 Cys His Gly His Pro Val Thr Asn Leu Ala Asp Leu Lys Asn Arg Gly
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cag tat gtg gcc gct gga ttt gaa cga ttc cac aag ctc ccc cct tac 258
 Gln Tyr Val Ala Ala Gly Phe Glu Arg Phe His Lys Leu Pro Pro Tyr
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cag gct ttt tgt ctc agt gtg ttc agg aat ggg gac ctg gta agt ccc 306
 Gln Ala Phe Cys Leu Ser Val Phe Arg Asn Gly Asp Leu Val Ser Pro
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cca ttt agt ctg aag ctg tcc cag gct gcc agc cag gac tgg gaa act 354
 Pro Phe Ser Leu Lys Leu Ser Gln Ala Ala Ser Gln Asp Trp Glu Thr
 75 80 85

gtg ttg aag ctc ctg act gag aag gtc aag ttg cag agt ggg gct gtg 402
 Val Leu Lys Leu Leu Thr Glu Lys Val Lys Leu Gln Ser Gly Ala Val
 90 95 100

aga	ctc	tgc	acc	cta	gag	ggg	ctc	cca	ctg	tca	gca	ggg	aag	gag	ctg	450
Arg	Leu	Cys	Thr	Leu	Glu	Gly	Leu	Pro	Leu	Ser	Ala	Gly	Lys	Glu	Leu	
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gta	act	ggc	cat	tac	tat	gtg	gct	gtc	gga	gag	gat	gag	ttc	aag	gac	498
Val	Thr	Gly	His	Tyr	Tyr	Val	Ala	Val	Gly	Glu	Asp	Glu	Phe	Lys	Asp	
				125					130					135		
ctt	ccc	tat	cca	gct	ctg	tcc	aca	aga	ggg	ctc	ctg	gca	gca	ggc	aat	546
Leu	Pro	Tyr	Pro	Ala	Leu	Ser	Thr	Arg	Gly	Leu	Leu	Ala	Ala	Gly	Asn	
			140					145					150			
gaa	gcc	cac	ctg	agg	agt	gga	gtg	ggg	act	gtc	gct	ggg	tcc	ccc	aag	594
Glu	Ala	His	Leu	Arg	Ser	Gly	Val	Gly	Thr	Val	Ala	Gly	Ser	Pro	Lys	
	155						160					165				
cct	ctt	gga	agg	aag	gct	aag	aag	gag	aca	tgc	cta	atc	gtg	acc	ctg	642
Pro	Leu	Gly	Arg	Lys	Ala	Lys	Lys	Glu	Thr	Cys	Leu	Ile	Val	Thr	Leu	
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acc	ctg	aaa	tac	cag	cag	tca	gaa	aca	agc	aga	gac	ggg	caa	tca	ttc	690
Thr	Leu	Lys	Tyr	Gln	Gln	Ser	Glu	Thr	Ser	Arg	Asp	Gly	Gln	Ser	Phe	
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cca	tca	gga	gtt	ata	gga	gta	tat	gga	gct	ccc	cac	cga	agg	aag	gag	738
Pro	Ser	Gly	Val	Ile	Gly	Val	Tyr	Gly	Ala	Pro	His	Arg	Arg	Lys	Glu	
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Thr	Ala	Gly	Ala	Leu	Glu	Val	Ala	Asp	Asp	Glu	Asp	Thr	Gln	Thr	Glu	
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gag	ccc	ttg	gat	cag	agg	gca	gca	cag	ata	gtg	gaa	cag	gtt	act	tgt	834
Glu	Pro	Leu	Asp	Gln	Arg	Ala	Ala	Gln	Ile	Val	Glu	Gln	Val	Thr	Cys	
		235					240					245				
ctg	caa	gac	ttt	ttt	ggg	gat	gac	gat	gtt	ttt	att	gca	tgt	gga	cca	882
Leu	Gln	Asp	Phe	Phe	Gly	Asp	Asp	Asp	Val	Phe	Ile	Ala	Cys	Gly	Pro	
	250					255					260					
gaa	aaa	ttt	cgt	tat	gcc	caa	gat	gac	ttt	gtc	ctg	gat	cat	agt	cgt	930
Glu	Lys	Phe	Arg	Tyr	Ala	Gln	Asp	Asp	Phe	Val	Leu	Asp	His	Ser	Arg	
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cga	cgg	ctc	ctg	aga	gag	cac	cag	gcg	ggc	ttt	gag	aag	ctc	cgc	agg	978
Arg	Arg	Leu	Leu	Arg	Glu	His	Gln	Ala	Gly	Phe	Glu	Lys	Leu	Arg	Arg	
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acc	cga	gga	gaa	gag	aag	gag	gca	gag	aag	gag	aaa	aag	cca	tgt	atg	1026
Thr	Arg	Gly	Glu	Glu	Lys	Glu	Ala	Glu	Lys	Glu	Lys	Lys	Pro	Cys	Met	
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tct	gga	ggc	aga	agg	atg	act	ctc	aga	gat	gac	caa	cct	gca	aag	cta	1074
Ser	Gly	Gly	Arg	Arg	Met	Thr	Leu	Arg	Asp	Asp	Gln	Pro	Ala	Lys	Leu	
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gaa	aag	gag	ccc	aag	acg	agg	cca	gaa	gag	aac	aag	cca	gag	cgg	ccc	1122
Glu	Lys	Glu	Pro	Lys	Thr	Arg	Pro	Glu	Glu	Asn	Lys	Pro	Glu	Arg	Pro	
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Ser Gly Arg Lys Pro Arg Pro Met Gly Ile Ile Ala Ala Asn Val Glu	
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Lys His Tyr Glu Thr Gly Arg Val Ile Gly Asp Gly Asn Phe Ala Val	
365 370 375	
gtg aag gag tgc aga cac cgc gag acc agg cag gcc tat gcg atg aag	1266
Val Lys Glu Cys Arg His Arg Glu Thr Arg Gln Ala Tyr Ala Met Lys	
380 385 390	
atc att gac aag tcc aga ctc aag ggc aag gag gac atg gtg gac agt	1314
Ile Ile Asp Lys Ser Arg Leu Lys Gly Lys Glu Asp Met Val Asp Ser	
395 400 405	
gag atc ttg atc atc cag agc ctc tct cac ccc aac atc gtg aaa ttg	1362
Glu Ile Leu Ile Ile Gln Ser Leu Ser His Pro Asn Ile Val Lys Leu	
410 415 420	
cat gaa gtc tac gaa aca gac atg gaa atc tac ctg atc ctg gag tac	1410
His Glu Val Tyr Glu Thr Asp Met Glu Ile Tyr Leu Ile Leu Glu Tyr	
425 430 435 440	
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Val Gln Gly Gly Asp Leu Phe Asp Ala Ile Ile Glu Ser Val Lys Phe	
445 450 455	
ccg gag ccc gat gct gcc ctc atg atc atg gac tta tgc aaa gcc ctc	1506
Pro Glu Pro Asp Ala Ala Leu Met Ile Met Asp Leu Cys Lys Ala Leu	
460 465 470	
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Val His Met His Asp Lys Ser Ile Val His Arg Asp Leu Lys Pro Glu	
475 480 485	
aac ctt ttg gtt cag cga aat gag gac aaa tct act acc ttg aaa ttg	1602
Asn Leu Leu Val Gln Arg Asn Glu Asp Lys Ser Thr Thr Leu Lys Leu	
490 495 500	
gct gat ttt gga ctt gca aag cat gtg gtg aga cct ata ttt act gtg	1650
Ala Asp Phe Gly Leu Ala Lys His Val Val Arg Pro Ile Phe Thr Val	
505 510 515 520	
tgt ggg acc cca act tac gta gct ccc gaa att ctt tct gag aaa ggt	1698
Cys Gly Thr Pro Thr Tyr Val Ala Pro Glu Ile Leu Ser Glu Lys Gly	
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tat gga ctg gag gtg gac atg tgg gct gct ggc gtg atc ctc tat atc	1746
Tyr Gly Leu Glu Val Asp Met Trp Ala Ala Gly Val Ile Leu Tyr Ile	
540 545 550	
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Leu Leu Cys Gly Phe Pro Pro Phe Arg Ser Pro Glu Arg Asp Gln Asp	
555 560 565	
gag ctc ttt aac atc atc cag ctg ggc cac ttt gag ttc ctc ccc cct	1842
Glu Leu Phe Asn Ile Ile Gln Leu Gly His Phe Glu Phe Leu Pro Pro	
570 575 580	
tac tgg gac aat atc tct gat gct gct aaa gat ctg gtg agc cgg ttg	1890

Tyr Trp Asp Asn Ile Ser Asp Ala Ala Lys Asp Leu Val Ser Arg Leu
 585 590 595 600
 ctg gtg gta gac ccc aaa aag cgc tac aca gct cat cag gtt ctt cag 1938
 Leu Val Val Asp Pro Lys Lys Arg Tyr Thr Ala His Gln Val Leu Gln
 605 610 615
 cac ccc tgg atc gaa aca gct ggc aag acc aat aca gtg aaa cga cag 1986
 His Pro Trp Ile Glu Thr Ala Gly Lys Thr Asn Thr Val Lys Arg Gln
 620 625 630
 aag cag gtg tcc ccc agc agc gat ggt cac ttc cgg agc cag cac aag 2034
 Lys Gln Val Ser Pro Ser Ser Asp Gly His Phe Arg Ser Gln His Lys
 635 640 645
 agg gtt gtg gag cag gta tca tag tcaccacctt gggaatctgt ccagccccc 2088
 Arg Val Val Glu Gln Val Ser *
 650 655

gttctgctca aggacagaga aaaggataga agtttgagag aaaaacaatg aaagaggctt 2148
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 35 40 45
 Arg Phe His Lys Leu Pro Pro Tyr Gln Ala Phe Cys Leu Ser Val Phe
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 Arg Asn Gly Asp Leu Val Ser Pro Pro Phe Ser Leu Lys Leu Ser Gln
 65 70 75 80
 Ala Ala Ser Gln Asp Trp Glu Thr Val Leu Lys Leu Leu Thr Glu Lys
 85 90 95
 Val Lys Leu Gln Ser Gly Ala Val Arg Leu Cys Thr Leu Glu Gly Leu
 100 105 110
 Pro Leu Ser Ala Gly Lys Glu Leu Val Thr Gly His Tyr Tyr Val Ala
 115 120 125
 Val Gly Glu Asp Glu Phe Lys Asp Leu Pro Tyr Pro Ala Leu Ser Thr
 130 135 140
 Arg Gly Leu Leu Ala Ala Gly Asn Glu Ala His Leu Arg Ser Gly Val
 145 150 155 160
 Gly Thr Val Ala Gly Ser Pro Lys Pro Leu Gly Arg Lys Ala Lys Lys
 165 170 175
 Glu Thr Cys Leu Ile Val Thr Leu Thr Leu Lys Tyr Gln Gln Ser Glu
 180 185 190
 Thr Ser Arg Asp Gly Gln Ser Phe Pro Ser Gly Val Ile Gly Val Tyr
 195 200 205
 Gly Ala Pro His Arg Arg Lys Glu Thr Ala Gly Ala Leu Glu Val Ala
 210 215 220
 Asp Asp Glu Asp Thr Gln Thr Glu Glu Pro Leu Asp Gln Arg Ala Ala

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Asp	Phe	Val	Leu	Asp	His	Ser	Arg	Arg	Arg	Leu	Leu	Arg	Glu	His	Gln
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Ala	Gly	Phe	Glu	Lys	Leu	Arg	Arg	Thr	Arg	Gly	Glu	Glu	Lys	Glu	Ala
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Glu	Lys	Glu	Lys	Lys	Pro	Cys	Met	Ser	Gly	Gly	Arg	Arg	Met	Thr	Leu
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Arg	Asp	Asp	Gln	Pro	Ala	Lys	Leu	Glu	Lys	Glu	Pro	Lys	Thr	Arg	Pro
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Glu	Glu	Asn	Lys	Pro	Glu	Arg	Pro	Ser	Gly	Arg	Lys	Pro	Arg	Pro	Met
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Ala	Lys	Asp	Leu	Val	Ser	Arg	Leu	Leu	Val	Val	Asp	Pro	Lys	Lys	Arg
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Tyr	Thr	Ala	His	Gln	Val	Leu	Gln	His	Pro	Trp	Ile	Glu	Thr	Ala	Gly
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Lys	Thr	Asn	Thr	Val	Lys	Arg	Gln	Lys	Gln	Val	Ser	Pro	Ser	Ser	Asp
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Glu Thr Ser Ser Pro Arg Pro Pro Arg Pro Ser Ser Asn Pro Gly Leu
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Ser Leu Asp Ala Arg Leu Gly Val Asp Thr Arg Leu Trp Ala Lys Val
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ctg ttc acc gcg ctc tac gca ctc atc tgg gcg ctg ggc gcg gcg ggc 204
Leu Phe Thr Ala Leu Tyr Ala Leu Ile Trp Ala Leu Gly Ala Ala Gly
35 40 45

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Asn Ala Leu Ser Val His Val Val Leu Lys Ala Arg Ala Gly Arg Ala
50 55 60 65

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Gly Arg Leu Arg His His Val Leu Ser Leu Ala Leu Ala Gly Leu Leu
70 75 80

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Leu Leu Leu Val Gly Val Pro Val Glu Leu Tyr Ser Phe Val Trp Phe
85 90 95

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His Tyr Pro Trp Val Phe Gly Asp Leu Gly Cys Arg Gly Tyr Tyr Phe
100 105 110

gtg cac gag ctg tgc gcc tac gcc acg gtg ctg agc gtg gca ggc ctg 444
Val His Glu Leu Cys Ala Tyr Ala Thr Val Leu Ser Val Ala Gly Leu
115 120 125

agc gcc gag gcg tgc cta gcc gtg tgc cag ccc ctg cgt gcc cgc agc 492
Ser Ala Glu Arg Cys Leu Ala Val Cys Gln Pro Leu Arg Ala Arg Ser
130 135 140 145

ctg ctg acg cca cgc cgg acc cgg tgg ctg gtg gcg ctc tcg tgg gcc 540
Leu Leu Thr Pro Arg Arg Thr Arg Trp Leu Val Ala Leu Ser Trp Ala
150 155 160

gcc tcg ctc ggc ctc gcc ctg ccc atg gcc gtc atc atg ggg cag aag 588
Ala Ser Leu Gly Leu Ala Leu Pro Met Ala Val Ile Met Gly Gln Lys
165 170 175

cac gaa ctc gag acg gcg gac ggg gag ccg gag ccc gcc tcg cga gtg 636
His Glu Leu Glu Thr Ala Asp Gly Glu Pro Glu Pro Ala Ser Arg Val
180 185 190

tgc acg gtg ctg gtg agc cgc acc gcg ctc caa gtc ttt atc cag gtg 684
Cys Thr Val Leu Val Ser Arg Thr Ala Leu Gln Val Phe Ile Gln Val
195 200 205

aat gtg ctg gtg tcc ttc gtg ctc ccc ttg gca cta act gct ttc ctg 732

Asn Val Leu Val Ser Phe Val Leu Pro Leu Ala Leu Thr Ala Phe Leu	
210 215 220 225	
aat ggg gtc aca gtg agc cac ctg ctg gcc ctc tgc tcc caa gtg ccg	780
Asn Gly Val Thr Val Ser His Leu Leu Ala Leu Cys Ser Gln Val Pro	
230 235 240	
tcc act tct acc ccg ggc agc tcc acc ccc agc cgc ctg gag ctg ctg	828
Ser Thr Ser Thr Pro Gly Ser Ser Thr Pro Ser Arg Leu Glu Leu Leu	
245 250 255	
agt gag gag ggt ctc ctc agc ttc atc gta tgg aag aag acc ttt atc	876
Ser Glu Glu Gly Leu Leu Ser Phe Ile Val Trp Lys Lys Thr Phe Ile	
260 265 270	
cag gga ggc cag gtc agc ctg gtg aga cat aaa gac gtg cgc cgg atc	924
Gln Gly Gly Gln Val Ser Leu Val Arg His Lys Asp Val Arg Arg Ile	
275 280 285	
cgc agc ctc cag cgc agc gtc cag gtt ctc aga gcc atc gtg gtc atg	972
Arg Ser Leu Gln Arg Ser Val Gln Val Leu Arg Ala Ile Val Val Met	
290 295 300 305	
tat gtc atc tgc tgg ctg ccg tac cat gcc cgc agg ctc atg tac tgc	1020
Tyr Val Ile Cys Trp Leu Pro Tyr His Ala Arg Arg Leu Met Tyr Cys	
310 315 320	
tac gta cct gat gac gcg tgg act gac cca ctg tac aat ttc tac cac	1068
Tyr Val Pro Asp Asp Ala Trp Thr Asp Pro Leu Tyr Asn Phe Tyr His	
325 330 335	
tac ttc tac atg gtg acc aac aca ctt ttc tac gtc agc tca gct gtg	1116
Tyr Phe Tyr Met Val Thr Asn Thr Leu Phe Tyr Val Ser Ser Ala Val	
340 345 350	
act cct ctt ctc tac aac gcc gtg tcc tcc tcc ttc aga aaa ctc ttc	1164
Thr Pro Leu Leu Tyr Asn Ala Val Ser Ser Ser Phe Arg Lys Leu Phe	
355 360 365	
ctg gaa gcc gtc agc tcc ctg tgt gga gag cac cac ccc atg aag cgg	1212
Leu Glu Ala Val Ser Ser Leu Cys Gly Glu His His Pro Met Lys Arg	
370 375 380 385	
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Leu Pro Pro Lys Pro Gln Ser Pro Thr Leu Met Asp Thr Ala Ser Gly	
390 395 400	
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Phe Gly Asp Pro Pro Glu Thr Arg Thr *	
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taatcattca agcttcgcag ccagggcgac ttctatcaac cccagctctg ctgagaacca	1430
tcaagcgcag ggaagccacg tgaccctcc tagcctcagg ctccctcgtc tgtgtagtgg	1490
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 <211> 410
 <212> PRT
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<400> 62

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Val	Leu	Phe	Thr	Ala	Leu	Tyr	Ala	Leu	Ile	Trp	Ala	Leu	Gly	Ala	Ala
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Gly	Asn	Ala	Leu	Ser	Val	His	Val	Val	Leu	Lys	Ala	Arg	Ala	Gly	Arg
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Ala	Gly	Arg	Leu	Arg	His	His	Val	Leu	Ser	Leu	Ala	Leu	Ala	Gly	Leu
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Leu	Leu	Leu	Leu	Val	Gly	Val	Pro	Val	Glu	Leu	Tyr	Ser	Phe	Val	Trp
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Phe	His	Tyr	Pro	Trp	Val	Phe	Gly	Asp	Leu	Gly	Cys	Arg	Gly	Tyr	Tyr
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Phe	Val	His	Glu	Leu	Cys	Ala	Tyr	Ala	Thr	Val	Leu	Ser	Val	Ala	Gly
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Leu	Ser	Ala	Glu	Arg	Cys	Leu	Ala	Val	Cys	Gln	Pro	Leu	Arg	Ala	Arg
	130					135					140				
Ser	Leu	Leu	Thr	Pro	Arg	Arg	Thr	Arg	Trp	Leu	Val	Ala	Leu	Ser	Trp
145					150					155					160
Ala	Ala	Ser	Leu	Gly	Leu	Ala	Leu	Pro	Met	Ala	Val	Ile	Met	Gly	Gln
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Lys	His	Glu	Leu	Glu	Thr	Ala	Asp	Gly	Glu	Pro	Glu	Pro	Ala	Ser	Arg
			180					185					190		
Val	Cys	Thr	Val	Leu	Val	Ser	Arg	Thr	Ala	Leu	Gln	Val	Phe	Ile	Gln
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Val	Asn	Val	Leu	Val	Ser	Phe	Val	Leu	Pro	Leu	Ala	Leu	Thr	Ala	Phe
	210					215					220				
Leu	Asn	Gly	Val	Thr	Val	Ser	His	Leu	Leu	Ala	Leu	Cys	Ser	Gln	Val
225					230					235					240
Pro	Ser	Thr	Ser	Thr	Pro	Gly	Ser	Ser	Thr	Pro	Ser	Arg	Leu	Glu	Leu
				245					250					255	
Leu	Ser	Glu	Glu	Gly	Leu	Leu	Ser	Phe	Ile	Val	Trp	Lys	Lys	Thr	Phe
			260					265					270		
Ile	Gln	Gly	Gly	Gln	Val	Ser	Leu	Val	Arg	His	Lys	Asp	Val	Arg	Arg
		275					280					285			
Ile	Arg	Ser	Leu	Gln	Arg	Ser	Val	Gln	Val	Leu	Arg	Ala	Ile	Val	Val
	290					295					300				
Met	Tyr	Val	Ile	Cys	Trp	Leu	Pro	Tyr	His	Ala	Arg	Arg	Leu	Met	Tyr
305					310					315					320
Cys	Tyr	Val	Pro	Asp	Asp	Ala	Trp	Thr	Asp	Pro	Leu	Tyr	Asn	Phe	Tyr
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His	Tyr	Phe	Tyr	Met	Val	Thr	Asn	Thr	Leu	Phe	Tyr	Val	Ser	Ser	Ala
			340					345					350		
Val	Thr	Pro	Leu	Leu	Tyr	Asn	Ala	Val	Ser	Ser	Ser	Phe	Arg	Lys	Leu
		355					360					365			
Phe	Leu	Glu	Ala	Val	Ser	Ser	Leu	Cys	Gly	Glu	His	His	Pro	Met	Lys
	370					375					380				
Arg	Leu	Pro	Pro	Lys	Pro	Gln	Ser	Pro	Thr	Leu	Met	Asp	Thr	Ala	Ser
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Gly	Phe	Gly	Asp	Pro	Pro	Glu	Thr	Arg	Thr						
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<210> 63

<211> 3278

<212> DNA

<213> Homo sapiens

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cttgccctgg tgttctacca gaaaaacgtc tccaatcac ccaggaaagc tgtccacagt 180
agtccccctt taccacgggt gtcactttcc atgggttcag ttatctgcgg tcaaccacgg 240
tctgacaata ttaaattgaa aattcttcaa acagttccca agttttccct tgtgcattgt 300
tctgagcagt gtgatggaga gtctctgccg tgccatctgg gatgcaaacc gtccctgtgt 360
ccccacgtc caggccgtag atgtccccc cgggtcagtc acttagtcgt cagatcgccc 420
gtcctggtat cacagtgtt ctgttcaggt tgcacactgg gccacagagg atccagcaag 480
g atg aag aaa tgg agc agc aca gac ttg ggg aca gct gcg gac cca ctc 529
Met Lys Lys Trp Ser Ser Thr Asp Leu Gly Thr Ala Ala Asp Pro Leu
  1          5          10          15

caa aag gac acc tgc cca gac ccc ctg gat gga gac cct aac tcc agg 577
Gln Lys Asp Thr Cys Pro Asp Pro Leu Asp Gly Asp Pro Asn Ser Arg
      20          25          30

cca cct cca gcc aag ccc cag ctc ccc acg gcc aag agc cgc acc cgg 625
Pro Pro Pro Ala Lys Pro Gln Leu Pro Thr Ala Lys Ser Arg Thr Arg
      35          40          45

ctc ttt ggg aag ggt gac tcg gag gag gct ttc ccg gtg gat tgc ccc 673
Leu Phe Gly Lys Gly Asp Ser Glu Glu Ala Phe Pro Val Asp Cys Pro
      50          55          60

cac gag gaa ggt gag ttg gac tcc tgc ccg acc atc aca gtc agc cct 721
His Glu Glu Gly Glu Leu Asp Ser Cys Pro Thr Ile Thr Val Ser Pro
      65          70          75          80

gtt atc acc atc cag agg cca gga gac ggc ccc acc ggt gcc agg ctg 769
Val Ile Thr Ile Gln Arg Pro Gly Asp Gly Pro Thr Gly Ala Arg Leu
      85          90          95

ctg tcc cag gac tct gtc gcc gcc agc acc gag aag acc ctc agg ctc 817
Leu Ser Gln Asp Ser Val Ala Ala Ser Thr Glu Lys Thr Leu Arg Leu
      100          105          110

tat gat cgc agg agt atc ttt gaa gcc gtt gct cag aac aac tgc cag 865
Tyr Asp Arg Arg Ser Ile Phe Glu Ala Val Ala Gln Asn Asn Cys Gln
      115          120          125

gat ctg gag agc ctg ctg ctc ttc ctg cag aag agc aag aag cac ctc 913
Asp Leu Glu Ser Leu Leu Leu Phe Leu Gln Lys Ser Lys Lys His Leu
      130          135          140

aca gac aac gag ttc aaa gac cct gag aca ggg aag acc tgt ctg ctg 961
Thr Asp Asn Glu Phe Lys Asp Pro Glu Thr Gly Lys Thr Cys Leu Leu
      145          150          155          160

aaa gcc atg ctc aac ctg cac gac gga cag aac acc acc atc ccc ctg 1009
Lys Ala Met Leu Asn Leu His Asp Gly Gln Asn Thr Thr Ile Pro Leu
      165          170          175

ctc ctg gag atc gcg cgg caa acg gac agc ctg aag gag ctt gtc aac 1057
Leu Leu Glu Ile Ala Arg Gln Thr Asp Ser Leu Lys Glu Leu Val Asn
      180          185          190

gcc agc tac acg gac agc tac tac aag ggc cag aca gca ctg cac atc 1105
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Ala	Ser	Tyr	Thr	Asp	Ser	Tyr	Tyr	Lys	Gly	Gln	Thr	Ala	Leu	His	Ile		
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gcc	atc	gag	aga	cgc	aac	atg	gcc	ctg	gtg	acc	ctc	ctg	gtg	gag	aac	1153	
Ala	Ile	Glu	Arg	Arg	Asn	Met	Ala	Leu	Val	Thr	Leu	Leu	Val	Glu	Asn		
	210					215					220						
gga	gca	gac	gtc	cag	gct	gcg	gcc	cat	ggg	gac	ttc	ttt	aag	aaa	acc	1201	
Gly	Ala	Asp	Val	Gln	Ala	Ala	Ala	His	Gly	Asp	Phe	Phe	Lys	Lys	Thr		
225					230					235					240		
aaa	ggg	cgg	cct	gga	ttc	tac	ttc	ggt	gaa	ctg	ccc	ctg	tcc	ctg	gcc	1249	
Lys	Gly	Arg	Pro	Gly	Phe	Tyr	Phe	Gly	Glu	Leu	Pro	Leu	Ser	Leu	Ala		
				245					250					255			
gcg	tgc	acc	aac	cag	ctg	ggc	atc	gtg	aag	ttc	ctg	ctg	cag	aac	tcc	1297	
Ala	Cys	Thr	Asn	Gln	Leu	Gly	Ile	Val	Lys	Phe	Leu	Leu	Gln	Asn	Ser		
			260					265					270				
tgg	cag	acg	gcc	gac	atc	agc	gcc	agg	gac	tcg	gtg	ggc	aac	acg	gtg	1345	
Trp	Gln	Thr	Ala	Asp	Ile	Ser	Ala	Arg	Asp	Ser	Val	Gly	Asn	Thr	Val		
	275						280					285					
ctg	cac	gcc	ctg	gtg	gag	gtg	gcc	gac	aac	acg	gcc	gac	aac	acg	aag	1393	
Leu	His	Ala	Leu	Val	Glu	Val	Ala	Asp	Asn	Thr	Ala	Asp	Asn	Thr	Lys		
	290					295					300						
ttt	gtg	acg	agc	atg	tac	aat	gag	att	ctg	atg	ctg	ggg	gcc	aaa	ctg	1441	
Phe	Val	Thr	Ser	Met	Tyr	Asn	Glu	Ile	Leu	Met	Leu	Gly	Ala	Lys	Leu		
305					310				315						320		
cac	ccg	acg	ctg	aag	ctg	gag	gag	ctc	acc	aac	aag	aag	gga	atg	acg	1489	
His	Pro	Thr	Leu	Lys	Leu	Glu	Glu	Leu	Thr	Asn	Lys	Lys	Gly	Met	Thr		
				325					330					335			
ccg	ctg	gct	ctg	gca	gct	ggg	acc	ggg	aag	atc	ggg	gtc	ttg	gcc	tat	1537	
Pro	Leu	Ala	Leu	Ala	Ala	Gly	Thr	Gly	Lys	Ile	Gly	Val	Leu	Ala	Tyr		
				340				345					350				
att	ctc	cag	cgg	gag	atc	cag	gag	ccc	gag	tgc	agg	cac	ctg	tcc	agg	1585	
Ile	Leu	Gln	Arg	Glu	Ile	Gln	Glu	Pro	Glu	Cys	Arg	His	Leu	Ser	Arg		
		355					360					365					
aag	ttc	acc	gag	tgg	gcc	tac	ggg	ccc	gtg	cac	tcc	tcg	ctg	tac	gac	1633	
Lys	Phe	Thr	Glu	Trp	Ala	Tyr	Gly	Pro	Val	His	Ser	Ser	Leu	Tyr	Asp		
	370					375					380						
ctg	tcc	tgc	atc	gac	acc	tgc	gag	aag	aac	tcg	gtg	ctg	gag	gtg	atc	1681	
Leu	Ser	Cys	Ile	Asp	Thr	Cys	Glu	Lys	Asn	Ser	Val	Leu	Glu	Val	Ile		
385					390					395					400		
gcc	tac	agc	agc	agc	gag	acc	cct	aat	cgc	cac	gac	atg	ctc	ttg	gtg	1729	
Ala	Tyr	Ser	Ser	Ser	Glu	Thr	Pro	Asn	Arg	His	Asp	Met	Leu	Leu	Val		
				405					410					415			
gag	ccg	ctg	aac	cga	ctc	ctg	cag	gac	aag	tgg	gac	aga	ttc	gtc	aag	1777	
Glu	Pro	Leu	Asn	Arg	Leu	Leu	Gln	Asp	Lys	Trp	Asp	Arg	Phe	Val	Lys		
			420					425					430				
cgc	atc	ttc	tac	ttc	aac	ttc	ctg	gtc	tac	tgc	ctg	tac	atg	atc	atc	1825	
Arg	Ile	Phe	Tyr	Phe	Asn	Phe	Leu	Val	Tyr	Cys	Leu	Tyr	Met	Ile	Ile		

435	440	445	
ttc acc atg gct gcc tac tac agg ccc gtg gat ggc ttg cct ccc ttt Phe Thr Met Ala Ala Tyr Tyr Arg Pro Val Asp Gly Leu Pro Pro Phe 450 455 460			1873
aag atg gaa aaa att gga gac tat ttc cga gtt act gga gag atc ctg Lys Met Glu Lys Ile Gly Asp Tyr Phe Arg Val Thr Gly Glu Ile Leu 465 470 475 480			1921
tct gtg tta gga gga gtc tac ttc ttt ttc cga ggg att cag tat ttc Ser Val Leu Gly Gly Val Tyr Phe Phe Phe Arg Gly Ile Gln Tyr Phe 485 490 495			1969
ctg cag agg cgg ccg tcg atg aag acc ctg ttt gtg gac agc tac agt Leu Gln Arg Arg Pro Ser Met Lys Thr Leu Phe Val Asp Ser Tyr Ser 500 505 510			2017
gag atg ctt ttc ttt ctg cag tca ctg ttc atg ctg gcc acc gtg gtg Glu Met Leu Phe Phe Leu Gln Ser Leu Phe Met Leu Ala Thr Val Val 515 520 525			2065
ctg tac ttc agc cac ctc aag gag tat gtg gct tcc atg gta ttc tcc Leu Tyr Phe Ser His Leu Lys Glu Tyr Val Ala Ser Met Val Phe Ser 530 535 540			2113
ctg gcc ttg ggc tgg acc aac atg ctc tac tac acc cgc ggt ttc cag Leu Ala Leu Gly Trp Thr Asn Met Leu Tyr Tyr Thr Arg Gly Phe Gln 545 550 555 560			2161
cag atg ggc atc tat gcc gtc atg ata gag aag atg atc ctg aga gac Gln Met Gly Ile Tyr Ala Val Met Ile Glu Lys Met Ile Leu Arg Asp 565 570 575			2209
ctg tgc cgt ttc atg ttt gtc tac atc gtc ttc ttg ttc ggg ttt tcc Leu Cys Arg Phe Met Phe Val Tyr Ile Val Phe Leu Phe Gly Phe Ser 580 585 590			2257
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tct gag tcc acg tcg cac agg tgg cgg ggg cct gcc tgc agg ccc ccc Ser Glu Ser Thr Ser His Arg Trp Arg Gly Pro Ala Cys Arg Pro Pro 610 615 620			2353
gat agc tcc tac aac agc ctg tac tcc acc tgc ctg gag ctg ttc aag Asp Ser Ser Tyr Asn Ser Leu Tyr Ser Thr Cys Leu Glu Leu Phe Lys 625 630 635 640			2401
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aag gct gtc ttc atc atc ctg ctg ctg gcc tat gta att ctc acc tac Lys Ala Val Phe Ile Ile Leu Leu Leu Ala Tyr Val Ile Leu Thr Tyr 660 665 670			2497
atc ctc ctg ctc aac atg ctc atc gcc ctc atg ggt gag act gtc aac Ile Leu Leu Leu Asn Met Leu Ile Ala Leu Met Gly Glu Thr Val Asn 675 680 685			2545

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Lys Ile Ala Gln Glu Ser Lys Asn Ile Trp Lys Leu Gln Arg Ala Ile
690 695 700

acc atc ctg gac acg gag aag agc ttc ctt aag tgc atg agg aag gcc 2641
Thr Ile Leu Asp Thr Glu Lys Ser Phe Leu Lys Cys Met Arg Lys Ala
705 710 715 720

ttc cgc tca ggc aag ctg ctg cag gtg ggg tac aca cct gat ggc aag 2689
Phe Arg Ser Gly Lys Leu Leu Gln Val Gly Tyr Thr Pro Asp Gly Lys
725 730 735

gac gac tac cgg tgg tgc ttc agg gtg gac gag gtg aac tgg acc acc 2737
Asp Asp Tyr Arg Trp Cys Phe Arg Val Asp Glu Val Asn Trp Thr Thr
740 745 750

tgg aac acc aac gtg ggc atc atc aac gaa gac ccg ggc aac tgt gag 2785
Trp Asn Thr Asn Val Gly Ile Ile Asn Glu Asp Pro Gly Asn Cys Glu
755 760 765

ggc gtc aag cgc acc ctg agc ttc tcc ctg cgg tca agc aga gtt tca 2833
Gly Val Lys Arg Thr Leu Ser Phe Ser Leu Arg Ser Ser Arg Val Ser
770 775 780

ggc aga cac tgg aag aac ttt gcc ctg gtc ccc ctt tta aga gag gca 2881
Gly Arg His Trp Lys Asn Phe Ala Leu Val Pro Leu Leu Arg Glu Ala
785 790 795 800

agt gct cga gat agg cag tct gct cag ccc gag gaa gtt tat ctg cga 2929
Ser Ala Arg Asp Arg Gln Ser Ala Gln Pro Glu Glu Val Tyr Leu Arg
805 810 815

cag ttt tca ggg tct ctg aag cca gag gac gct gag gtc ttc aag agt 2977
Gln Phe Ser Gly Ser Leu Lys Pro Glu Asp Ala Glu Val Phe Lys Ser
820 825 830

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Pro Ala Ala Ser Gly Glu Lys *
835

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<210> 64

<211> 839

<212> PRT

<213> Homo sapiens

<400> 64

Met Lys Lys Trp Ser Ser Thr Asp Leu Gly Thr Ala Ala Asp Pro Leu
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Pro Pro Pro Ala Lys Pro Gln Leu Pro Thr Ala Lys Ser Arg Thr Arg
35 40 45
Leu Phe Gly Lys Gly Asp Ser Glu Glu Ala Phe Pro Val Asp Cys Pro
50 55 60

His	Glu	Glu	Gly	Glu	Leu	Asp	Ser	Cys	Pro	Thr	Ile	Thr	Val	Ser	Pro
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Val	Ile	Thr	Ile	Gln	Arg	Pro	Gly	Asp	Gly	Pro	Thr	Gly	Ala	Arg	Leu
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Leu	Ser	Gln	Asp	Ser	Val	Ala	Ala	Ser	Thr	Glu	Lys	Thr	Leu	Arg	Leu
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Tyr	Asp	Arg	Arg	Ser	Ile	Phe	Glu	Ala	Val	Ala	Gln	Asn	Asn	Cys	Gln
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Asp	Leu	Glu	Ser	Leu	Leu	Leu	Phe	Leu	Gln	Lys	Ser	Lys	Lys	His	Leu
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Lys	Ala	Met	Leu	Asn	Leu	His	Asp	Gly	Gln	Asn	Thr	Thr	Ile	Pro	Leu
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Leu	Leu	Glu	Ile	Ala	Arg	Gln	Thr	Asp	Ser	Leu	Lys	Glu	Leu	Val	Asn
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Ala	Ser	Tyr	Thr	Asp	Ser	Tyr	Tyr	Lys	Gly	Gln	Thr	Ala	Leu	His	Ile
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Ala	Ile	Glu	Arg	Arg	Asn	Met	Ala	Leu	Val	Thr	Leu	Leu	Val	Glu	Asn
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Gly	Ala	Asp	Val	Gln	Ala	Ala	His	Gly	Asp	Phe	Phe	Lys	Lys	Thr	
225					230				235						240
Lys	Gly	Arg	Pro	Gly	Phe	Tyr	Phe	Gly	Glu	Leu	Pro	Leu	Ser	Leu	Ala
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Ala	Cys	Thr	Asn	Gln	Leu	Gly	Ile	Val	Lys	Phe	Leu	Leu	Gln	Asn	Ser
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Trp	Gln	Thr	Ala	Asp	Ile	Ser	Ala	Arg	Asp	Ser	Val	Gly	Asn	Thr	Val
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Leu	His	Ala	Leu	Val	Glu	Val	Ala	Asp	Asn	Thr	Ala	Asp	Asn	Thr	Lys
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Phe	Val	Thr	Ser	Met	Tyr	Asn	Glu	Ile	Leu	Met	Leu	Gly	Ala	Lys	Leu
305					310					315					320
His	Pro	Thr	Leu	Lys	Leu	Glu	Glu	Leu	Thr	Asn	Lys	Lys	Gly	Met	Thr
				325					330					335	
Pro	Leu	Ala	Leu	Ala	Ala	Gly	Thr	Gly	Lys	Ile	Gly	Val	Leu	Ala	Tyr
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Ala	Tyr	Ser	Ser	Ser	Glu	Thr	Pro	Asn	Arg	His	Asp	Met	Leu	Leu	Val
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Gln	Phe	Ser	Gly	Ser	Leu	Lys	Pro	Glu	Asp	Ala	Glu	Val	Phe	Lys Ser
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 Met Pro
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 Gly Lys Arg Gly Leu Gly Trp Trp Trp Ala Arg Leu Pro Leu Cys Leu
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 Leu Leu Ser Leu Tyr Gly Pro Trp Met Pro Ser Ser Leu Gly Lys Pro

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Lys Gly His Pro His Met Asn Ser Ile Arg Ile Asp Gly Asp Ile Thr			
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Leu Gly Gly Leu Phe Pro Val His Gly Arg Gly Ser Glu Gly Lys Pro			
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Cys Gly Glu Leu Lys Lys Glu Lys Gly Ile His Arg Leu Glu Ala Met			
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Leu Phe Ala Leu Asp Arg Ile Asn Asn Asp Pro Asp Leu Leu Pro Asn			
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Ile Thr Leu Gly Ala Arg Ile Leu Asp Thr Cys Ser Arg Asp Thr His			
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Ala Leu Glu Gln Ser Leu Thr Phe Val Gln Ala Leu Ile Glu Lys Asp			
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Gly Thr Glu Val Arg Cys Gly Ser Gly Gly Pro Pro Ile Ile Thr Lys			
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Pro Glu Arg Val Val Gly Val Ile Gly Ala Ser Gly Ser Ser Val Ser			
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Ile Met Val Ala Asn Ile Leu Arg Leu Phe Lys Ile Pro Gln Ile Ser			
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Tyr Ala Ser Thr Ala Pro Asp Leu Ser Asp Asn Ser Arg Tyr Asp Phe			
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Phe Ser Arg Val Val Pro Ser Asp Thr Tyr Gln Ala Gln Ala Met Val			
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Asp Ile Val Arg Ala Leu Lys Trp Asn Tyr Val Ser Thr Val Ala Ser			
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Glu Gly Ser Tyr Gly Glu Ser Gly Val Glu Ala Phe Ile Gln Lys Ser			
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Arg Glu Asp Gly Gly Val Cys Ile Ala Gln Ser Val Lys Ile Pro Arg			
245 250 255			
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Glu Pro Lys Ala Gly Glu Phe Asp Lys Ile Ile Arg Arg Leu Leu Glu			
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Thr	Ser	Asn	Ala	Arg	Ala	Val	Ile	Ile	Phe	Ala	Asn	Glu	Asp	Asp	Ile	
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Arg	Arg	Val	Leu	Glu	Ala	Ala	Arg	Arg	Ala	Asn	Gln	Thr	Gly	His	Phe	
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Phe	Trp	Met	Gly	Ser	Asp	Ser	Trp	Gly	Ser	Lys	Ile	Ala	Pro	Val	Leu	
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cac	ctg	gag	gag	gtg	gct	gag	ggc	gct	gtc	acg	atc	ctc	ccc	aag	agg	1184
His	Leu	Glu	Glu	Val	Ala	Glu	Gly	Ala	Val	Thr	Ile	Leu	Pro	Lys	Arg	
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Met	Ser	Val	Arg	Gly	Phe	Asp	Arg	Tyr	Phe	Ser	Ser	Arg	Thr	Leu	Asp	
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Asn	Asn	Arg	Arg	Asn	Ile	Trp	Phe	Ala	Glu	Phe	Trp	Glu	Asp	Asn	Phe	
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Lys	Cys	Thr	Asn	Arg	Glu	Arg	Ile	Gly	Gln	Asp	Ser	Ala	Tyr	Glu	Gln	
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Glu	Gly	Lys	Val	Gln	Phe	Val	Ile	Asp	Ala	Val	Tyr	Ala	Met	Gly	His	
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Ala	Leu	His	Ala	Met	His	Arg	Asp	Leu	Cys	Pro	Gly	Arg	Val	Gly	Leu	
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tgc	ccg	cgc	atg	gac	cct	gta	gat	ggc	acc	cag	ctg	ctt	aag	tac	atc	1520
Cys	Pro	Arg	Met	Asp	Pro	Val	Asp	Gly	Thr	Gln	Leu	Leu	Lys	Tyr	Ile	
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Arg	Asn	Val	Asn	Phe	Ser	Gly	Ile	Ala	Gly	Asn	Pro	Val	Thr	Phe	Asn	
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gag	aat	gga	gat	gcg	cct	ggg	cgc	tat	gac	atc	tac	caa	tac	cag	ctg	1616
Glu	Asn	Gly	Asp	Ala	Pro	Gly	Arg	Tyr	Asp	Ile	Tyr	Gln	Tyr	Gln	Leu	
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Arg	Asn	Asp	Ser	Ala	Glu	Tyr	Lys	Val	Ile	Gly	Ser	Trp	Thr	Asp	His	
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Leu	His	Leu	Arg	Ile	Glu	Arg	Met	His	Trp	Pro	Gly	Ser	Gly	Gln	Gln	
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Leu Pro Arg Ser Ile Cys Ser Leu Pro Cys Gln Pro Gly Glu Arg Lys	
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Gly Tyr Gln Tyr Gln Val Asp Arg Tyr Thr Cys Lys Thr Cys Pro Tyr	
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Asp Met Arg Pro Thr Glu Asn Arg Thr Gly Cys Arg Pro Ile Pro Ile	
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Ile Lys Leu Glu Trp Gly Ser Pro Trp Ala Val Leu Pro Leu Phe Leu	
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Arg Tyr Asn Asp Thr Pro Ile Val Lys Ala Ser Gly Arg Glu Leu Ser	
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Tyr Val Leu Leu Ala Gly Ile Phe Leu Cys Tyr Ala Thr Thr Phe Leu	
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Leu Gly Leu Gly Met Ser Ile Ser Tyr Ala Ala Leu Leu Thr Lys Thr	
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Asn Arg Ile Tyr Arg Ile Phe Glu Gln Gly Lys Arg Ser Val Ser Ala	
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cca cgc ttc atc agc ccc gcc tca cag ctg gcc atc acc ttc agc ctc	2288
Pro Arg Phe Ile Ser Pro Ala Ser Gln Leu Ala Ile Thr Phe Ser Leu	
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Ile Ser Leu Gln Leu Leu Gly Ile Cys Val Trp Phe Val Val Asp Pro	
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Ser His Ser Val Val Asp Phe Gln Asp Gln Arg Thr Leu Asp Pro Arg	
725 730 735	
ttc gcc agg ggt gtg ctc aag tgt gac atc tcg gac ctg tcg ctc atc	2432
Phe Ala Arg Gly Val Leu Lys Cys Asp Ile Ser Asp Leu Ser Leu Ile	
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Ala	Ile	Lys	Thr	Arg	Gly	Val	Pro	Glu	Thr	Phe	Asn	Glu	Ala	Lys	Pro	
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att	ggc	ttc	acc	atg	tac	acc	act	tgc	atc	gtc	tgg	ctg	gcc	ttc	atc	2576
Ile	Gly	Phe	Thr	Met	Tyr	Thr	Thr	Cys	Ile	Val	Trp	Leu	Ala	Phe	Ile	
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Pro	Ile	Phe	Phe	Gly	Thr	Ser	Gln	Ser	Ala	Asp	Lys	Leu	Tyr	Ile	Gln	
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Gln	Asn	Val	Pro	Lys	Arg	Lys	Arg	Ser	Leu	Lys	Ala	Val	Val	Thr	Ala	
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Val	Ser	Ile	Met	Val	Ala	Asn	Ile	Leu	Arg	Leu	Phe	Lys	Ile	Pro	Gln
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Lys	Ser	Arg	Glu	Asp	Gly	Gly	Val	Cys	Ile	Ala	Gln	Ser	Val	Lys	Ile
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Pro	Arg	Glu	Pro	Lys	Ala	Gly	Glu	Phe	Asp	Lys	Ile	Ile	Arg	Arg	Leu
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Leu	Glu	Thr	Ser	Asn	Ala	Arg	Ala	Val	Ile	Ile	Phe	Ala	Asn	Glu	Asp
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Pro	Ile	Ile	Lys	Leu	Glu	Trp	Gly	Ser	Pro	Trp	Ala	Val	Leu	Pro
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Ile	Gln	Thr	Thr	Thr	Leu	Thr	Val	Ser	Val	Ser	Leu	Ser	Ala	Ser
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Pro	Glu	Gln	Asn	Val	Pro	Lys	Arg	Lys	Arg	Ser	Leu	Lys	Ala	Val
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gacacactga cggtagcctac agaatactgg acatacggat tcagaatcca taaggcttta 300
tcaccttgaa tcaaggattt atttgatatt atcctcggtc tttacttcct atcaagtaac 360
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Asp Glu Arg Pro Ala Trp Asn Ser Lys Leu Gln Tyr Ile Leu Ala Gln
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gtt gga ttt tct gta ggt tta gga aat gtg tgg cga ttt cca tac cta 711
Val Gly Phe Ser Val Gly Leu Gly Asn Val Trp Arg Phe Pro Tyr Leu
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Cys Gln Lys Asn Gly Gly Gly Ala Tyr Leu Leu Pro Tyr Leu Ile Leu
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Gln Arg Ile Arg Arg Gly Ser Ile Gly Val Trp Asn Tyr Ile Ser Pro
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Lys Leu Gly Gly Ile Gly Phe Ala Ser Cys Val Val Cys Tyr Phe Val
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Asn Ala Ser His Thr Phe Val Glu Pro Glu Cys Glu Gln Ser Ser Ala	
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Thr Thr Tyr Tyr Trp Tyr Arg Glu Ala Leu Asn Ile Ser Ser Ser Ile	
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Cys Phe Leu Ile Arg Ala Phe Leu Leu Asn Gly Ser Ile Asp Gly Ile	
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Lys	Val	Arg	Lys	Glu	Ile	Leu	Thr	Val	Ile	Cys	Cys	Leu	Leu	Ala	Phe		
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715						720					725		730							
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<212> PRT

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Leu	Pro	Trp	Asp	Gln	Cys	Pro	Leu	Val	Lys	Asn	Ala	Ser	His	Thr	Phe

180

185

190

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Ser	Gln	Asp	Ile	Ile	Pro	His	His	Ile	Asn	Leu	Ser	Thr	Val	Thr	Ala
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Glu Val Lys Glu Ser Lys Asp Phe Ile Lys Pro Lys Leu Val Thr Val	
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Ile Arg Ser Gly Val Lys Pro Arg Lys Ala Val Arg Ile Leu Leu Asn	
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Gly Lys Gln Val Thr Cys Leu Gln Asp Phe Phe Gly Asp Asp Asp Val	
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Ser Thr Pro Lys Ser Thr Lys Ser Ser Ser Ser Ser Pro Thr Ser Pro	
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Gly Met Glu Pro Ile Ser Pro Val Pro Pro Ser Val Glu Glu Ile Pro
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Val Pro Gly Glu Ala Val Pro Ala Pro Thr Pro Pro Glu Ser Pro Thr
730 735 740 745

ccc cac tgt cct ccc gct gcc ccg ggt ggt gag cgg gca gga acc tgg 2490
Pro His Cys Pro Pro Ala Ala Pro Gly Gly Glu Arg Ala Gly Thr Trp
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Arg Arg His Arg Asp *
765

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Arg	Ser	Phe	Asp	Ala	Leu	Leu	Ile	Glu	Leu	Thr	Arg	Ser	Leu	Ser	Asp		
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Leu	Ala	Ala	Ala	Ser	Ser	Val	Lys	Ser	Glu	Val	Lys	Glu	Ser	Lys	Asp		
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Phe	Ile	Lys	Pro	Lys	Leu	Val	Thr	Val	Ile	Arg	Ser	Gly	Val	Lys	Pro		
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Val	Val	Lys	Arg	Leu	Cys	Thr	Leu	Asp	Gly	Lys	Gln	Val	Thr	Cys	Leu		
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Gln	Ile	Ser	Ala	His	Gly	Arg	Ser	Ser	Ser	Asn	Val	Thr	Gly	Gly	Pro		
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Glu	Leu	Asp	Arg	Cys	Ile	Ser	Pro	Glu	Gly	Val	Asn	Gly	Asn	Arg	Cys		
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Ile	Thr	Ser	Ser	Thr	Lys	Tyr	Thr	Glu	Arg	Asp	Gly	Ser	Ala	Met	Val		
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Glu	Ile	Ile	Ala	Glu	Thr	Gly	Tyr	Gly	Leu	Lys	Val	Asp	Ile	Trp	Ala
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Ala	Gly	Val	Ile	Thr	Tyr	Ile	Leu	Leu	Cys	Gly	Phe	Pro	Pro	Phe	Arg
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Ser	Glu	Asn	Asn	Leu	Gln	Glu	Asp	Leu	Phe	Asp	Gln	Ile	Leu	Ala	Gly
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Thr	Ala	Gly	Gln	Ile	Leu	Ser	His	Pro	Trp	Val	Ser	Asp	Asp	Ala	Ser
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Gln	Glu	Asn	Asn	Met	Gln	Ala	Glu	Val	Thr	Gly	Lys	Leu	Lys	Gln	His
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Arg Ser Lys Ser Asn Phe Ile Ile Phe Leu Lys Asn Thr Val Ile Ser	
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Asp Leu Leu Met Ile Leu Thr Phe Pro Phe Lys Ile Leu Ser Asp Ala	
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aaa ctg gga aca gga cca ctg aga act ttt gtg tgt caa gtt acc tcc	582
Lys Leu Gly Thr Gly Pro Leu Arg Thr Phe Val Cys Gln Val Thr Ser	
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Val Ile Phe Tyr Phe Thr Met Tyr Ile Ser Ile Ser Phe Leu Gly Leu	
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Ile Thr Ile Asp Arg Tyr Gln Lys Thr Thr Arg Pro Phe Lys Thr Ser	
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Asn Pro Lys Asn Leu Leu Gly Ala Lys Ile Leu Ser Val Val Ile Trp	
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Ser Gln Thr Arg Asp Val Phe Asp Cys Thr Ala Glu Asn Thr Leu Phe	
265 270 275	

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 Asp Pro Phe Ile Tyr Phe Phe Leu Cys Lys Ser Phe Arg Asn Ser Leu
 295 300 305
 ata agt atg ctg aag tgc ccc aat tct gca aca tct ctg tcc cag gac 1254
 Ile Ser Met Leu Lys Cys Pro Asn Ser Ala Thr Ser Leu Ser Gln Asp
 310 315 320 325
 aat agg aaa aaa gaa cag gat ggt ggt gac cca aat gaa gag act cca 1302
 Asn Arg Lys Lys Glu Gln Asp Gly Gly Asp Pro Asn Glu Glu Thr Pro
 330 335 340
 atg taa acaaattaac taaggaaata tttcaatctc tttgtgttca gaactcgta 1358
 Met *

aagcaaagcg ctaagtaaaa atattacctg acgaagaagc aactaagtta ataataatga 1418
 ctctaaagaa acagaagatt acaaaagcaa ttttcattta cctttccagt atgaaaagct 1478
 atcttaaaat atagaaaact aatctaaact gtagctgtat tagcagcaaa acaaacgaca 1538
 tccaattgtc atgctgcatg caaaactaca cagaattcat gttttgcaga gttttgcca 1598
 aatgagtaat catataatat ttactgtaat ttttaaaata cattatcggt cacaatttta 1658
 ttttttcata atcaactaag gaagaacgat caattggata taatttctta ccaaaaatga 1718
 tagttaaaat gtatatatat cctagtcccc taaccaaata ctgacctatt gggatactta 1778
 taaaaattta agtaagtggg atacacaaag aataataact attaaccttt cattattagc 1838
 aaaaacctaa gggattttaa ctaattgaaa ctgtatttga ttggacttaa ttttttatgt 1898
 ttatttagaa gataaagatt taaagaagac ctttacaata aagagaagaa atatcgaagt 1958
 cattaaaata aggagactta cttttatgac attctaatac taaraaatat agaaatat 2018
 ccttaattct agagaaacta gttttactaa ttttttaca cttcaataat accatcactg 2078
 acacttacct ttattaatta gcttctagaa aatagctgct aattagggtta atgaacattt 2138
 taccttagtg aaaaaaatta attaaatatg attacaaagt tgcacagcat aactactgag 2198
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<210> 72

<211> 342

<212> PRT

<213> Homo sapiens

<400> 72

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 20 25 30
 Thr Val Leu Phe Phe Val Gly Leu Ile Thr Asn Gly Leu Ala Met Arg
 35 40 45
 Ile Phe Phe Gln Ile Arg Ser Lys Ser Asn Phe Ile Ile Phe Leu Lys
 50 55 60
 Asn Thr Val Ile Ser Asp Leu Leu Met Ile Leu Thr Phe Pro Phe Lys
 65 70 75 80
 Ile Leu Ser Asp Ala Lys Leu Gly Thr Gly Pro Leu Arg Thr Phe Val
 85 90 95
 Cys Gln Val Thr Ser Val Ile Phe Tyr Phe Thr Met Tyr Ile Ser Ile
 100 105 110
 Ser Phe Leu Gly Leu Ile Thr Ile Asp Arg Tyr Gln Lys Thr Thr Arg
 115 120 125
 Pro Phe Lys Thr Ser Asn Pro Lys Asn Leu Leu Gly Ala Lys Ile Leu
 130 135 140

Ser	Val	Val	Ile	Trp	Ala	Phe	Met	Phe	Leu	Leu	Ser	Leu	Pro	Asn	Met
145					150				155						160
Ile	Leu	Thr	Asn	Arg	Gln	Pro	Arg	Asp	Lys	Asn	Val	Lys	Lys	Cys	Ser
			165					170						175	
Phe	Leu	Lys	Ser	Glu	Phe	Gly	Leu	Val	Trp	His	Glu	Ile	Val	Asn	Tyr
			180					185					190		
Ile	Cys	Gln	Val	Ile	Phe	Trp	Ile	Asn	Phe	Leu	Ile	Val	Ile	Val	Cys
		195					200					205			
Tyr	Thr	Leu	Ile	Thr	Lys	Glu	Leu	Tyr	Arg	Ser	Tyr	Val	Arg	Thr	Arg
	210					215					220				
Gly	Val	Gly	Lys	Val	Pro	Arg	Lys	Lys	Val	Asn	Val	Lys	Val	Phe	Ile
225					230					235					240
Ile	Ile	Ala	Val	Phe	Phe	Ile	Cys	Phe	Val	Pro	Phe	His	Phe	Ala	Arg
				245					250					255	
Ile	Pro	Tyr	Thr	Leu	Ser	Gln	Thr	Arg	Asp	Val	Phe	Asp	Cys	Thr	Ala
			260					265					270		
Glu	Asn	Thr	Leu	Phe	Tyr	Val	Lys	Glu	Ser	Thr	Leu	Trp	Leu	Thr	Ser
		275					280					285			
Leu	Asn	Ala	Cys	Leu	Asp	Pro	Phe	Ile	Tyr	Phe	Phe	Leu	Cys	Lys	Ser
	290				295						300				
Phe	Arg	Asn	Ser	Leu	Ile	Ser	Met	Leu	Lys	Cys	Pro	Asn	Ser	Ala	Thr
305					310					315					320
Ser	Leu	Ser	Gln	Asp	Asn	Arg	Lys	Lys	Glu	Gln	Asp	Gly	Gly	Asp	Pro
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Asn	Glu	Glu	Thr	Pro	Met										
			340												

<210> 73
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 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
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 Asn Gly Asn Thr Ser Phe Thr Pro Asn Phe Asn Pro Pro Gln Asp His
 5 10 15 20

gcc tcc tcc ctc tcc ttt aac ttc agt tat ggt gat tat gac ctc cct 152
 Ala Ser Ser Leu Ser Phe Asn Phe Ser Tyr Gly Asp Tyr Asp Leu Pro
 25 30 35

atg gat gag gat gag gac atg acc aag acc cgg acc ttc ttc gca gcc 200
 Met Asp Glu Asp Glu Asp Met Thr Lys Thr Arg Thr Phe Phe Ala Ala
 40 45 50

aag atc gtc att ggc att gca ctg gca ggc atc atg ctg gtc tgc ggc 248
 Lys Ile Val Ile Gly Ile Ala Leu Ala Gly Ile Met Leu Val Cys Gly
 55 60 65

atc ggt aac ttt gtc ttt atc gct gcc ctc acc cgc tat aag aag ttg 296
 Ile Gly Asn Phe Val Phe Ile Ala Ala Leu Thr Arg Tyr Lys Lys Leu
 70 75 80

cgc aac ctc acc aat ctg ctc att gcc aac ctg gcc atc tcc gac ttc	344
Arg Asn Leu Thr Asn Leu Leu Ile Ala Asn Leu Ala Ile Ser Asp Phe	
85 90 95 100	
ctg gtg gcc atc atc tgc tgc ccc ttc gag atg gac tac tac gtg gta	392
Leu Val Ala Ile Ile Cys Cys Pro Phe Glu Met Asp Tyr Tyr Val Val	
105 110 115	
cgg cag ctc tcc tgg gag cat ggc cac gtg ctc tgt gcc tcc gtc aac	440
Arg Gln Leu Ser Trp Glu His Gly His Val Leu Cys Ala Ser Val Asn	
120 125 130	
tac ctg cgc acc gtc tcc ctc tac gtc tcc acc aat gcc ttg ctg gcc	488
Tyr Leu Arg Thr Val Ser Leu Tyr Val Ser Thr Asn Ala Leu Leu Ala	
135 140 145	
att gcc att gac aga tat ctc gcc atc gtt cac ccc ttg aaa cca cgg	536
Ile Ala Ile Asp Arg Tyr Leu Ala Ile Val His Pro Leu Lys Pro Arg	
150 155 160	
atg aat tat caa acg gcc tcc ttc ctg atc gcc ttg gtc tgg atg gtg	584
Met Asn Tyr Gln Thr Ala Ser Phe Leu Ile Ala Leu Val Trp Met Val	
165 170 175 180	
tcc att ctc att gcc atc cca tcg gct tac ttt gca aca gaa acc gtc	632
Ser Ile Leu Ile Ala Ile Pro Ser Ala Tyr Phe Ala Thr Glu Thr Val	
185 190 195	
ctc ttt att gtc aag agc cag gag aag atc ttc tgt ggc cag atc tgg	680
Leu Phe Ile Val Lys Ser Gln Glu Lys Ile Phe Cys Gly Gln Ile Trp	
200 205 210	
cct gtg gat cag cag ctc tac tac aag tcc tac ttc ctc ttc atc ttt	728
Pro Val Asp Gln Gln Leu Tyr Tyr Lys Ser Tyr Phe Leu Phe Ile Phe	
215 220 225	
ggt gtc gag ttc gtg ggc cct gtg gtc acc atg acc ctg tgc tat gcc	776
Gly Val Glu Phe Val Gly Pro Val Val Thr Met Thr Leu Cys Tyr Ala	
230 235 240	
agg atc tcc cgg gag ctc tgg ttc aag gca gtc cct ggg ttc cag acg	824
Arg Ile Ser Arg Glu Leu Trp Phe Lys Ala Val Pro Gly Phe Gln Thr	
245 250 255 260	
gag cag att cgc aag cgg ctg cgc tgc cgc agg aag acg gtc ctg gtg	872
Glu Gln Ile Arg Lys Arg Leu Arg Cys Arg Arg Lys Thr Val Leu Val	
265 270 275	
ctc atg tgc att ctc acg gcc tat gtg ctg tgc tgg gca ccc ttc tac	920
Leu Met Cys Ile Leu Thr Ala Tyr Val Leu Cys Trp Ala Pro Phe Tyr	
280 285 290	
ggt ttc acc atc gtt cgt gac ttc ttc ccc act gtg ttc gtg aag gaa	968
Gly Phe Thr Ile Val Arg Asp Phe Phe Pro Thr Val Phe Val Lys Glu	
295 300 305	
aag cac tac ctc act gcc ttc tac gtg gtc gag tgc atc gcc atg agc	1016
Lys His Tyr Leu Thr Ala Phe Tyr Val Val Glu Cys Ile Ala Met Ser	
310 315 320	

aac agc atg atc aac acc gtg tgc ttc gtg acg gtc aag aac aac acc	1064
Asn Ser Met Ile Asn Thr Val Cys Phe Val Thr Val Lys Asn Asn Thr	
325 330 335 340	
atg aag tac ttc aag aag atg atg ctg ctg cac tgg cgt ccc tcc cag	1112
Met Lys Tyr Phe Lys Lys Met Met Leu Leu His Trp Arg Pro Ser Gln	
345 350 355	
cgg ggg agc aag tcc agt gct gac ctt gac ctc aga acc aac ggg gtg	1160
Arg Gly Ser Lys Ser Ser Ala Asp Leu Asp Leu Arg Thr Asn Gly Val	
360 365 370	
ccc acc aca gaa gaa gtg gac tgt atc agg ctg aag tga cccactgggtg	1209
Pro Thr Thr Glu Glu Val Asp Ile Arg Leu Lys *	
375 380	
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gatatccgct cgacaccta cgtgtccaca atccccacaa ggagattaga cacaaggagc	1449
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ccaagcaagt aacaatttta ggttatgtac atttctataa atataataat tgtattttta	3789
tttattattc tatcctggct cttagccgaa tcaggagatt ctttaggaat ggaccatgta	3849
ccagtcaagt ctgtcagcag gattcatcac cctgttcctt tttgtcctag aatataccaa	3909

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cttccttttca ttgaaattta actgaaaaaa cttttgtaaa tatcagtggtg tatttgtgat 3969
tttccagtgga ttaaagtgtg atgttggtat ccaattaaat aattaacatg tggaatttaa 4029
aaaaaaaaaa aaagggcggc cgc 4052

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<210> 74
<211> 384
<212> PRT
<213> Homo sapiens

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Tyr Asp Leu Pro Met Asp Glu Asp Glu Asp Met Thr Lys Thr Arg Thr
35     40     45
Phe Phe Ala Ala Lys Ile Val Ile Gly Ile Ala Leu Ala Gly Ile Met
50     55     60
Leu Val Cys Gly Ile Gly Asn Phe Val Phe Ile Ala Ala Leu Thr Arg
65     70     75     80
Tyr Lys Lys Leu Arg Asn Leu Thr Asn Leu Leu Ile Ala Asn Leu Ala
85     90     95
Ile Ser Asp Phe Leu Val Ala Ile Ile Cys Cys Pro Phe Glu Met Asp
100    105    110
Tyr Tyr Val Val Arg Gln Leu Ser Trp Glu His Gly His Val Leu Cys
115    120    125
Ala Ser Val Asn Tyr Leu Arg Thr Val Ser Leu Tyr Val Ser Thr Asn
130    135    140
Ala Leu Leu Ala Ile Ala Ile Asp Arg Tyr Leu Ala Ile Val His Pro
145    150    155    160
Leu Lys Pro Arg Met Asn Tyr Gln Thr Ala Ser Phe Leu Ile Ala Leu
165    170    175
Val Trp Met Val Ser Ile Leu Ile Ala Ile Pro Ser Ala Tyr Phe Ala
180    185    190
Thr Glu Thr Val Leu Phe Ile Val Lys Ser Gln Glu Lys Ile Phe Cys
195    200    205
Gly Gln Ile Trp Pro Val Asp Gln Gln Leu Tyr Tyr Lys Ser Tyr Phe
210    215    220
Leu Phe Ile Phe Gly Val Glu Phe Val Gly Pro Val Val Thr Met Thr
225    230    235    240
Leu Cys Tyr Ala Arg Ile Ser Arg Glu Leu Trp Phe Lys Ala Val Pro
245    250    255
Gly Phe Gln Thr Glu Gln Ile Arg Lys Arg Leu Arg Cys Arg Arg Lys
260    265    270
Thr Val Leu Val Leu Met Cys Ile Leu Thr Ala Tyr Val Leu Cys Trp
275    280    285
Ala Pro Phe Tyr Gly Phe Thr Ile Val Arg Asp Phe Phe Pro Thr Val
290    295    300
Phe Val Lys Glu Lys His Tyr Leu Thr Ala Phe Tyr Val Val Glu Cys
305    310    315    320
Ile Ala Met Ser Asn Ser Met Ile Asn Thr Val Cys Phe Val Thr Val
325    330    335
Lys Asn Asn Thr Met Lys Tyr Phe Lys Lys Met Met Leu Leu His Trp
340    345    350
Arg Pro Ser Gln Arg Gly Ser Lys Ser Ser Ala Asp Leu Asp Leu Arg
355    360    365
Thr Asn Gly Val Pro Thr Thr Glu Glu Val Asp Cys Ile Arg Leu Lys
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<210> 75

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<211> 3433
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (74)...(3433)

<400> 75

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cggggtgggg tca atg aag tgc agc ctg agg aag atg tgg cgc cct gga 109
      Met Lys Cys Ser Leu Arg Lys Met Trp Arg Pro Gly
        1                      5                      10

gaa aag aag gag ccc cag ggc gtt gtc tat gag gat gtg ccg gac gac 157
Glu Lys Lys Glu Pro Gln Gly Val Val Tyr Glu Asp Val Pro Asp Asp
      15                      20                      25

acg gag gat ttc aag gaa tcg ctt aag gtg gtt ttt gaa gga agt gca 205
Thr Glu Asp Phe Lys Glu Ser Leu Lys Val Val Phe Glu Gly Ser Ala
      30                      35                      40

tat gga tta caa aac ttt aat aag caa aag aaa tta aaa aca tgt gac 253
Tyr Gly Leu Gln Asn Phe Asn Lys Gln Lys Lys Leu Lys Thr Cys Asp
      45                      50                      55                      60

gat atg gac acc ttc ttc ttg cat tat gct gca gca gaa ggc caa att 301
Asp Met Asp Thr Phe Phe Leu His Tyr Ala Ala Ala Glu Gly Gln Ile
      65                      70                      75

gag cta atg gag aag atc acc aga gat tcc tct ttg gaa gtg ctg cat 349
Glu Leu Met Glu Lys Ile Thr Arg Asp Ser Ser Leu Glu Val Leu His
      80                      85                      90

gaa atg gat gat tat gga aat acc cct ctg cat tgt gct gta gaa aaa 397
Glu Met Asp Asp Tyr Gly Asn Thr Pro Leu His Cys Ala Val Glu Lys
      95                      100                      105

aac caa att gaa agc gtt aag ttt ctt ctc agc aga gga gca aac cca 445
Asn Gln Ile Glu Ser Val Lys Phe Leu Leu Ser Arg Gly Ala Asn Pro
      110                      115                      120

aac ctc cga aac ttc aac atg atg gct cct ctc cac ata gct gtg cag 493
Asn Leu Arg Asn Phe Asn Met Met Ala Pro Leu His Ile Ala Val Gln
      125                      130                      135                      140

ggc atg aat aat gag gtg atg aag gtc ttg ctt gag cat aga act att 541
Gly Met Asn Asn Glu Val Met Lys Val Leu Leu Glu His Arg Thr Ile
      145                      150                      155

gat gtt aat ttg gaa gga gaa aat gga aac aca gct gtg atc att gcg 589
Asp Val Asn Leu Glu Gly Glu Asn Gly Asn Thr Ala Val Ile Ile Ala
      160                      165                      170

tgc acc aca aat aat agc gaa gca ttg cag att ttg ctt aac aaa gga 637
Cys Thr Thr Asn Asn Ser Glu Ala Leu Gln Ile Leu Leu Asn Lys Gly
      175                      180                      185

gct aag cca tgt aaa tca aat aaa tgg gga tgt ttc cct att cac caa 685
Ala Lys Pro Cys Lys Ser Asn Lys Trp Gly Cys Phe Pro Ile His Gln
      190                      195                      200
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gct gca ttt tca ggt tcc aaa gaa tgc atg gaa ata ata cta agg ttt	733
Ala Ala Phe Ser Gly Ser Lys Glu Cys Met Glu Ile Ile Leu Arg Phe	
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ggt gaa gag cat ggg tac agt aga cag ttg cac att aac ttt atg aat	781
Gly Glu Glu His Gly Tyr Ser Arg Gln Leu His Ile Asn Phe Met Asn	
225 230 235	
aat ggg aaa gcc acc cct ctc cac ctg gct gtg caa aat ggt gac ttg	829
Asn Gly Lys Ala Thr Pro Leu His Leu Ala Val Gln Asn Gly Asp Leu	
240 245 250	
gaa atg atc aaa atg tgc ctg gac aat ggt gca caa ata gac cca gtg	877
Glu Met Ile Lys Met Cys Leu Asp Asn Gly Ala Gln Ile Asp Pro Val	
255 260 265	
gag aag gga agg tgc aca gcc att cat ttt gct gcc acc cag gga gcc	925
Glu Lys Gly Arg Cys Thr Ala Ile His Phe Ala Ala Thr Gln Gly Ala	
270 275 280	
act gag att gtt aaa ctg atg ata tcg tcc tat tct ggt agc gtg gat	973
Thr Glu Ile Val Lys Leu Met Ile Ser Ser Tyr Ser Gly Ser Val Asp	
285 290 295 300	
att gtt aac aca acc gat gga tgt cat gag acc atg ctt cac aga gct	1021
Ile Val Asn Thr Thr Asp Gly Cys His Glu Thr Met Leu His Arg Ala	
305 310 315	
tca ttg ttt gat cac cat gag cta gca gac tat tta att tca gtg gga	1069
Ser Leu Phe Asp His His Glu Leu Ala Asp Tyr Leu Ile Ser Val Gly	
320 325 330	
gca gat att aat aag atc gat tct gaa gga cgc tct cca ctt ata tta	1117
Ala Asp Ile Asn Lys Ile Asp Ser Glu Gly Arg Ser Pro Leu Ile Leu	
335 340 345	
gca act gct tct gca tct tgg aat att gta aat ttg cta ctc tct aaa	1165
Ala Thr Ala Ser Ala Ser Trp Asn Ile Val Asn Leu Leu Ser Lys	
350 355 360	
ggt gcc caa gta gac ata aaa gat aat ttt gga cgt aat ttt ctg cat	1213
Gly Ala Gln Val Asp Ile Lys Asp Asn Phe Gly Arg Asn Phe Leu His	
365 370 375 380	
tta act gta cag caa cct tat gga tta aaa aat ctg cga cct gaa ttt	1261
Leu Thr Val Gln Gln Pro Tyr Gly Leu Lys Asn Leu Arg Pro Glu Phe	
385 390 395	
atg cag atg caa cag atc aaa gag ctg gta atg gat gaa gac aac gat	1309
Met Gln Met Gln Gln Ile Lys Glu Leu Val Met Asp Glu Asp Asn Asp	
400 405 410	
ggg tgt act cct cta cat tat gca tgt aga cag ggg ggc cct ggt tct	1357
Gly Cys Thr Pro Leu His Tyr Ala Cys Arg Gln Gly Gly Pro Gly Ser	
415 420 425	
gta aat aac cta ctt ggc ttt aat gtg tcc att cat tcc aaa agc aaa	1405
Val Asn Asn Leu Leu Gly Phe Asn Val Ser Ile His Ser Lys Ser Lys	
430 435 440	

gat aag aaa tca cct ctg cat ttt gca gcc agt tat ggg cgt atc aat	1453
Asp Lys Lys Ser Pro Leu His Phe Ala Ala Ser Tyr Gly Arg Ile Asn	
445 450 455 460	
acc tgt cag agg ctc cta caa gac ata agt gat acg agg ctt ctg aat	1501
Thr Cys Gln Arg Leu Leu Gln Asp Ile Ser Asp Thr Arg Leu Leu Asn	
465 470 475	
gaa ggt gac ctt cat gga atg act cct ctc cat ctg gca gca aag aat	1549
Glu Gly Asp Leu His Gly Met Thr Pro Leu His Leu Ala Ala Lys Asn	
480 485 490	
gga cat gat aaa gta gtt cag ctt ctt ctg aaa aaa ggt gca ttg ttt	1597
Gly His Asp Lys Val Val Gln Leu Leu Leu Lys Lys Gly Ala Leu Phe	
495 500 505	
ctc agt gac cac aat ggc tgg aca gct ttg cat cat gcg tcc atg ggc	1645
Leu Ser Asp His Asn Gly Trp Thr Ala Leu His His Ala Ser Met Gly	
510 515 520	
ggg tac act cag acc atg aag gtc att ctt gat act aat ttg aag tgc	1693
Gly Tyr Thr Gln Thr Met Lys Val Ile Leu Asp Thr Asn Leu Lys Cys	
525 530 535 540	
aca gat cgc ttg gat gaa gac ggg aac act gca ctt cac ttt gct gca	1741
Thr Asp Arg Leu Asp Glu Asp Gly Asn Thr Ala Leu His Phe Ala Ala	
545 550 555	
agg gaa ggc cac gcc aaa gcc gtt gcg ctt ctt ctg agc cac aat gct	1789
Arg Glu Gly His Ala Lys Ala Val Ala Leu Leu Leu Ser His Asn Ala	
560 565 570	
gac ata gtc ctg aac aag cag cag gcc tcc ttt ttg cac ctt gca ctt	1837
Asp Ile Val Leu Asn Lys Gln Gln Ala Ser Phe Leu His Leu Ala Leu	
575 580 585	
cac aat aag agg aag gag gtt gtt ctt acg atc atc agg agc aaa aga	1885
His Asn Lys Arg Lys Glu Val Val Leu Thr Ile Ile Arg Ser Lys Arg	
590 595 600	
tgg gat gaa tgt ctt aag att ttc agt cat aat tct cca ggc aat aaa	1933
Trp Asp Glu Cys Leu Lys Ile Phe Ser His Asn Ser Pro Gly Asn Lys	
605 610 615 620	
tgt cca att aca gaa atg ata gaa tac ctc cct gaa tgc atg aag gta	1981
Cys Pro Ile Thr Glu Met Ile Glu Tyr Leu Pro Glu Cys Met Lys Val	
625 630 635	
ctt tta gat ttc tgc atg ttg cat tcc aca gaa gac aag tcc tgc cga	2029
Leu Leu Asp Phe Cys Met Leu His Ser Thr Glu Asp Lys Ser Cys Arg	
640 645 650	
gac tat tat atc gag tat aat ttc aaa tat ctt caa tgt cca tta gaa	2077
Asp Tyr Tyr Ile Glu Tyr Asn Phe Lys Tyr Leu Gln Cys Pro Leu Glu	
655 660 665	
ttc acc aaa aaa aca cct aca cag gat gtt ata tat gaa ccg ctt aca	2125
Phe Thr Lys Lys Thr Pro Thr Gln Asp Val Ile Tyr Glu Pro Leu Thr	
670 675 680	
gcc ctc aac gca atg gta caa aat aac cgc ata gag ctt ctc aat cat	2173

Ala	Leu	Asn	Ala	Met	Val	Gln	Asn	Asn	Arg	Ile	Glu	Leu	Leu	Asn	His	
685					690					695					700	
cct	gtg	tgt	aaa	gaa	tat	tta	ctc	atg	aaa	tgg	ttg	gct	tat	gga	ttt	2221
Pro	Val	Cys	Lys	Glu	Tyr	Leu	Leu	Met	Lys	Trp	Leu	Ala	Tyr	Gly	Phe	
				705					710					715		
aga	gct	cat	atg	atg	aat	tta	gga	tct	tac	tgt	ctt	ggt	ctc	ata	cct	2269
Arg	Ala	His	Met	Met	Asn	Leu	Gly	Ser	Tyr	Cys	Leu	Gly	Leu	Ile	Pro	
			720					725					730			
atg	acc	att	ctc	gtt	gtc	aat	ata	aaa	cca	gga	atg	gct	ttc	aac	tca	2317
Met	Thr	Ile	Leu	Val	Val	Asn	Ile	Lys	Pro	Gly	Met	Ala	Phe	Asn	Ser	
		735					740					745				
act	ggc	atc	atc	aat	gaa	act	agt	gat	cat	tca	gaa	ata	cta	gat	acc	2365
Thr	Gly	Ile	Ile	Asn	Glu	Thr	Ser	Asp	His	Ser	Glu	Ile	Leu	Asp	Thr	
	750					755					760					
acg	aat	tca	tat	cta	ata	aaa	act	tgt	atg	att	tta	gtg	ttt	tta	tca	2413
Thr	Asn	Ser	Tyr	Leu	Ile	Lys	Thr	Cys	Met	Ile	Leu	Val	Phe	Leu	Ser	
765					770					775					780	
agt	ata	ttt	ggg	tat	tgc	aaa	gaa	gcg	ggg	caa	att	ttc	caa	cag	aaa	2461
Ser	Ile	Phe	Gly	Tyr	Cys	Lys	Glu	Ala	Gly	Gln	Ile	Phe	Gln	Gln	Lys	
				785					790					795		
agg	aat	tat	ttt	atg	gat	ata	agc	aat	gtt	ctt	gaa	tgg	att	atc	tac	2509
Arg	Asn	Tyr	Phe	Met	Asp	Ile	Ser	Asn	Val	Leu	Glu	Trp	Ile	Ile	Tyr	
			800					805					810			
acg	acg	ggc	atc	att	ttt	gtg	ctg	ccc	ttg	ttt	gtt	gaa	ata	cca	gct	2557
Thr	Thr	Gly	Ile	Ile	Phe	Val	Leu	Pro	Leu	Phe	Val	Glu	Ile	Pro	Ala	
		815					820					825				
cat	ctg	cag	tgg	caa	tgt	gga	gca	att	gct	gtt	tac	ttc	tat	tgg	atg	2605
His	Leu	Gln	Trp	Gln	Cys	Gly	Ala	Ile	Ala	Val	Tyr	Phe	Tyr	Trp	Met	
	830					835					840					
aat	ttc	tta	ttg	tat	ctt	caa	aga	ttt	gaa	aat	tgt	gga	att	ttt	att	2653
Asn	Phe	Leu	Leu	Tyr	Leu	Gln	Arg	Phe	Glu	Asn	Cys	Gly	Ile	Phe	Ile	
845					850					855					860	
gtt	atg	ttg	gag	gta	att	ttg	aaa	act	ttg	ttg	agg	tct	aca	gtt	gta	2701
Val	Met	Leu	Glu	Val	Ile	Leu	Lys	Thr	Leu	Leu	Arg	Ser	Thr	Val	Val	
				865					870					875		
ttt	atc	ttc	ctt	ctt	ctg	gct	ttt	gga	ctc	agc	ttt	tac	atc	ctc	ctg	2749
Phe	Ile	Phe	Leu	Leu	Leu	Ala	Phe	Gly	Leu	Ser	Phe	Tyr	Ile	Leu	Leu	
			880					885					890			
aat	tta	cag	gat	ccc	ttc	agc	tct	cca	ttg	ctt	tct	ata	atc	cag	acc	2797
Asn	Leu	Gln	Asp	Pro	Phe	Ser	Ser	Pro	Leu	Leu	Ser	Ile	Ile	Gln	Thr	
		895					900					905				
ttc	agc	atg	atg	cta	gga	gat	atc	aat	tat	cga	gag	tcc	ttc	cta	gaa	2845
Phe	Ser	Met	Met	Leu	Gly	Asp	Ile	Asn	Tyr	Arg	Glu	Ser	Phe	Leu	Glu	
	910					915					920					
cca	tat	ctg	aga	aat	gaa	ttg	gca	cat	cca	gtt	ctg	tcc	ttt	gca	caa	2893
Pro	Tyr	Leu	Arg	Asn	Glu	Leu	Ala	His	Pro	Val	Leu	Ser	Phe	Ala	Gln	

925	930	935	940	
ctt gtt tcc ttc aca ata ttt gtc cca att gtc ctc atg aat tta ctt				2941
Leu Val Ser Phe Thr Ile Phe Val Pro Ile Val Leu Met Asn Leu Leu				
	945	950	955	
att ggt ttg gca gtt ggc gac att gct gag gtc cag aaa cat gca tca				2989
Ile Gly Leu Ala Val Gly Asp Ile Ala Glu Val Gln Lys His Ala Ser				
	960	965	970	
ttg aag agg ata gct atg cag gtg gaa ctt cat acc agc tta gag aag				3037
Leu Lys Arg Ile Ala Met Gln Val Glu Leu His Thr Ser Leu Glu Lys				
	975	980	985	
aag ctg cca ctt tgg ttt cta cgc aaa gtg gat cag aaa tcc acc atc				3085
Lys Leu Pro Leu Trp Phe Leu Arg Lys Val Asp Gln Lys Ser Thr Ile				
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gtg tat ccc aac aaa ccc aga tct ggt ggg atg tta ttc cat ata ttc				3133
Val Tyr Pro Asn Lys Pro Arg Ser Gly Gly Met Leu Phe His Ile Phe				
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tgt ttt tta ttt tgc act ggg gaa ata aga caa gaa ata cca aat gct				3181
Cys Phe Leu Phe Cys Thr Gly Glu Ile Arg Gln Glu Ile Pro Asn Ala				
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gat aaa tct tta gaa atg gaa ata tta aag cag aaa tac cgg ctg aag				3229
Asp Lys Ser Leu Glu Met Glu Ile Leu Lys Gln Lys Tyr Arg Leu Lys				
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gat ctt act ttt ctc ctg gaa aaa cag cat gag ctc att aaa ctg atc				3277
Asp Leu Thr Phe Leu Leu Glu Lys Gln His Glu Leu Ile Lys Leu Ile				
	1055	1060	1065	
att cag aag atg gag atc atc tct gag aca gag gat gat gat agc cat				3325
Ile Gln Lys Met Glu Ile Ile Ser Glu Thr Glu Asp Asp Asp Ser His				
	1070	1075	1080	
tgt tct ttt caa gac agg ttt aag aaa gag cag atg gaa caa agg aat				3373
Cys Ser Phe Gln Asp Arg Phe Lys Lys Glu Gln Met Glu Gln Arg Asn				
	1085	1090	1095	1100
agc aga tgg aat act gtg ttg aga gca gtc aag gca aaa aca cac cat				3421
Ser Arg Trp Asn Thr Val Leu Arg Ala Val Lys Ala Lys Thr His His				
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ctt gag cct tag				3433
Leu Glu Pro *				

<210> 76
 <211> 1119
 <212> PRT
 <213> Homo sapiens

<400> 76
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 Pro Gln Gly Val Val Tyr Glu Asp Val Pro Asp Asp Thr Glu Asp Phe
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Asn	Phe	Asn	Lys	Gln	Lys	Lys	Leu	Lys	Thr	Cys	Asp	Asp	Met	Asp	Thr
	50					55					60				
Phe	Phe	Leu	His	Tyr	Ala	Ala	Ala	Glu	Gly	Gln	Ile	Glu	Leu	Met	Glu
65					70					75					80
Lys	Ile	Thr	Arg	Asp	Ser	Ser	Leu	Glu	Val	Leu	His	Glu	Met	Asp	Asp
				85					90					95	
Tyr	Gly	Asn	Thr	Pro	Leu	His	Cys	Ala	Val	Glu	Lys	Asn	Gln	Ile	Glu
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Ser	Val	Lys	Phe	Leu	Leu	Ser	Arg	Gly	Ala	Asn	Pro	Asn	Leu	Arg	Asn
		115					120					125			
Phe	Asn	Met	Met	Ala	Pro	Leu	His	Ile	Ala	Val	Gln	Gly	Met	Asn	Asn
	130					135					140				
Glu	Val	Met	Lys	Val	Leu	Leu	Glu	His	Arg	Thr	Ile	Asp	Val	Asn	Leu
145					150					155					160
Glu	Gly	Glu	Asn	Gly	Asn	Thr	Ala	Val	Ile	Ile	Ala	Cys	Thr	Thr	Asn
			165						170					175	
Asn	Ser	Glu	Ala	Leu	Gln	Ile	Leu	Leu	Asn	Lys	Gly	Ala	Lys	Pro	Cys
		180						185					190		
Lys	Ser	Asn	Lys	Trp	Gly	Cys	Phe	Pro	Ile	His	Gln	Ala	Ala	Phe	Ser
		195					200					205			
Gly	Ser	Lys	Glu	Cys	Met	Glu	Ile	Ile	Leu	Arg	Phe	Gly	Glu	Glu	His
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Gly	Tyr	Ser	Arg	Gln	Leu	His	Ile	Asn	Phe	Met	Asn	Asn	Gly	Lys	Ala
225					230					235					240
Thr	Pro	Leu	His	Leu	Ala	Val	Gln	Asn	Gly	Asp	Leu	Glu	Met	Ile	Lys
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Met	Cys	Leu	Asp	Asn	Gly	Ala	Gln	Ile	Asp	Pro	Val	Glu	Lys	Gly	Arg
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Cys	Thr	Ala	Ile	His	Phe	Ala	Ala	Thr	Gln	Gly	Ala	Thr	Glu	Ile	Val
		275					280					285			
Lys	Leu	Met	Ile	Ser	Ser	Tyr	Ser	Gly	Ser	Val	Asp	Ile	Val	Asn	Thr
	290					295					300				
Thr	Asp	Gly	Cys	His	Glu	Thr	Met	Leu	His	Arg	Ala	Ser	Leu	Phe	Asp
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His	His	Glu	Leu	Ala	Asp	Tyr	Leu	Ile	Ser	Val	Gly	Ala	Asp	Ile	Asn
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Lys	Ile	Asp	Ser	Glu	Gly	Arg	Ser	Pro	Leu	Ile	Leu	Ala	Thr	Ala	Ser
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Ala	Ser	Trp	Asn	Ile	Val	Asn	Leu	Leu	Leu	Ser	Lys	Gly	Ala	Gln	Val
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Asp	Ile	Lys	Asp	Asn	Phe	Gly	Arg	Asn	Phe	Leu	His	Leu	Thr	Val	Gln
	370					375					380				
Gln	Pro	Tyr	Gly	Leu	Lys	Asn	Leu	Arg	Pro	Glu	Phe	Met	Gln	Met	Gln
385					390					395					400
Gln	Ile	Lys	Glu	Leu	Val	Met	Asp	Glu	Asp	Asn	Asp	Gly	Cys	Thr	Pro
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Leu	His	Tyr	Ala	Cys	Arg	Gln	Gly	Gly	Pro	Gly	Ser	Val	Asn	Asn	Leu
			420					425					430		
Leu	Gly	Phe	Asn	Val	Ser	Ile	His	Ser	Lys	Ser	Lys	Asp	Lys	Lys	Ser
		435					440					445			
Pro	Leu	His	Phe	Ala	Ala	Ser	Tyr	Gly	Arg	Ile	Asn	Thr	Cys	Gln	Arg
	450					455					460				
Leu	Leu	Gln	Asp	Ile	Ser	Asp	Thr	Arg	Leu	Leu	Asn	Glu	Gly	Asp	Leu
465					470					475					480
His	Gly	Met	Thr	Pro	Leu	His	Leu	Ala	Ala	Lys	Asn	Gly	His	Asp	Lys
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Val	Val	Gln	Leu	Leu	Leu	Lys	Lys	Gly	Ala	Leu	Phe	Leu	Ser	Asp	His
			500					505					510		
Asn	Gly	Trp	Thr	Ala	Leu	His	His	Ala	Ser	Met	Gly	Gly	Tyr	Thr	Gln

Lys Pro Arg Ser Gly Gly Met Leu Phe His Ile Phe Cys Phe Leu Phe
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 Cys Thr Gly Glu Ile Arg Gln Glu Ile Pro Asn Ala Asp Lys Ser Leu
 1025 1030 1035 1040
 Glu Met Glu Ile Leu Lys Gln Lys Tyr Arg Leu Lys Asp Leu Thr Phe
 1045 1050 1055
 Leu Leu Glu Lys Gln His Glu Leu Ile Lys Leu Ile Ile Gln Lys Met
 1060 1065 1070
 Glu Ile Ile Ser Glu Thr Glu Asp Asp Ser His Cys Ser Phe Gln
 1075 1080 1085
 Asp Arg Phe Lys Lys Glu Gln Met Glu Gln Arg Asn Ser Arg Trp Asn
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 1105 1110 1115

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 atg gac ctg gaa gcc tcg ctg ctg ccc act ggt ccc aat gcc agc aac 468
 Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1 5 10 15
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 Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
 20 25 30
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 Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
 35 40 45
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 Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
 50 55 60
 gtc gtg aag aag tcc aag ctg cac tgg tgc aac aac gtc ccc gac atc 660
 Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
 65 70 75 80
 ttc atc atc aac ctc tcg gta gta gat ctc ctc ttt ctc ctg ggc atg 708
 Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
 85 90 95
 ccc ttc atg atc cac cag ctc atg ggc aat ggg gtg tgg cac ttt ggg 756
 Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
 100 105 110

gag acc atg tgc acc ctc atc acg gcc atg gat gcc aat agt cag ttc	804
Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe	
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acc agc acc tac atc ctg acc gcc atg gcc att gac cgc tac ctg gcc	852
Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala	
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Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr	
165 170 175	
cct gtg tgg ctg tat gcc aga ctc atc ccc ttc cca gga ggt gca gtg	996
Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val	
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Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe	
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Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile	
210 215 220	
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225 230 235 240	
ccc gcc tcc cag cgc agc atc cgg ctg cgg aca aag agg gtg acc cgc	1188
Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Thr Arg	
245 250 255	
aca gcc atc gcc atc tgt ctg gtc ttc ttt gtg tgc tgg gca ccc tac	1236
Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Pro Tyr	
260 265 270	
tat gtg cta cag ctg acc cag ttg tcc atc agc cgc ccg acc ctc acc	1284
Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr	
275 280 285	
ttt gtc tac tta tac aat gcg gcc atc agc ttg ggc tat gcc aac agc	1332
Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser	
290 295 300	
tgc ctc aac ccc ttt gtg tac atc gtg ctc tgt gag acg ttc cgc aaa	1380
Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys	
305 310 315 320	
cgc ttg gtc ctg tcg gtg aag cct gca gcc cag ggg cag ctt cgc gct	1428
Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala	
325 330 335	
gtc agc aac gct cag acg gct gac gag gag agg aca gaa agc aaa ggc	1476
Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly	
340 345 350	
acc tga tacttccct gccaccctgc acacctccaa gtcagggcac cacaacacgc	1532

Thr *

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<210> 78

<211> 353

<212> PRT

<213> Homo sapiens

<400> 78

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Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
35          40          45
Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
50          55          60
Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
65          70          75          80
Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
85          90          95
Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
100         105         110
Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
115         120         125
Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala
130         135         140
Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala
145         150         155         160
Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr
165         170         175
Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val
180         185         190
Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe
195         200         205
Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile
210         215         220
Thr Ala Ala Tyr Val Arg Ile Leu Gln Arg Met Thr Ser Ser Val Ala
225         230         235         240
Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Thr Arg
245         250         255
Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Pro Tyr
260         265         270
Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr
275         280         285
Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser
290         295         300
Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys
305         310         315         320
Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala
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acc gcc aag ttc tac tgg atc ctc aca atg atg caa aga act cac agc 156
 Thr Ala Lys Phe Tyr Trp Ile Leu Thr Met Met Gln Arg Thr His Ser
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cag gag tat gcc cat tcc ata cgg gtg gat ggg gac att att ttg ggg 204
 Gln Glu Tyr Ala His Ser Ile Arg Val Asp Gly Asp Ile Ile Leu Gly
 35 40 45

ggt ctc ttc cct gtc cac gca aag gga gag aga ggg gtg cct tgt ggg 252
 Gly Leu Phe Pro Val His Ala Lys Gly Glu Arg Gly Val Pro Cys Gly
 50 55 60 65

gag ctg aag aag gaa aag ggg att cac aga ctg gag gcc atg ctt tat 300
 Glu Leu Lys Lys Glu Lys Gly Ile His Arg Leu Glu Ala Met Leu Tyr
 70 75 80

gca att gac cag att aac aag gac cct gat ctc ctt tcc aac atc act 348
 Ala Ile Asp Gln Ile Asn Lys Asp Pro Asp Leu Leu Ser Asn Ile Thr
 85 90 95

ctg ggt gtc cgc atc ctc gac acg tgc tct agg gac acc tat gct ttg 396
 Leu Gly Val Arg Ile Leu Asp Thr Cys Ser Arg Asp Thr Tyr Ala Leu
 100 105 110

gag cag tct cta aca ttc gtg cag gca tta ata gag aaa gat gct tcg 444
 Glu Gln Ser Leu Thr Phe Val Gln Ala Leu Ile Glu Lys Asp Ala Ser
 115 120 125

gat gtg aag tgt gct aat gga gat cca ccc att ttc acc aag ccc gac 492
 Asp Val Lys Cys Ala Asn Gly Asp Pro Pro Ile Phe Thr Lys Pro Asp
 130 135 140 145

aag att tct ggc gtc ata ggt gct gca gca agc tcc gtg tcc atc atg 540
 Lys Ile Ser Gly Val Ile Gly Ala Ala Ser Ser Val Ser Ile Met
 150 155 160

gtt gct aac att tta aga ctt ttt aag ata cct caa atc agc tat gca 588

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Ser	Thr	Ala	Pro	Glu	Leu	Ser	Asp	Asn	Thr	Arg	Tyr	Asp	Phe	Phe	Ser		
		180					185					190					
cga	gtg	gtt	ccg	cct	gac	tcc	tac	caa	gcc	caa	gcc	atg	gtg	gac	atc	684	
Arg	Val	Val	Pro	Pro	Asp	Ser	Tyr	Gln	Ala	Gln	Ala	Met	Val	Asp	Ile		
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gtg	aca	gca	ctg	gga	tgg	aat	tat	gtt	tcg	aca	ctg	gct	tct	gag	ggg	732	
Val	Thr	Ala	Leu	Gly	Trp	Asn	Tyr	Val	Ser	Thr	Leu	Ala	Ser	Glu	Gly		
210					215					220					225		
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Asn	Tyr	Gly	Glu	Ser	Gly	Val	Glu	Ala	Phe	Thr	Gln	Ile	Ser	Arg	Glu		
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Asn	Ala	Arg	Ala	Val	Ile	Met	Phe	Ala	Asn	Glu	Asp	Asp	Ile	Arg	Arg		
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gag	gag	att	gca	gaa	ggg	gct	gtg	aca	att	ttg	ccc	aaa	cga	gca	tca	1068	
Glu	Glu	Ile	Ala	Glu	Gly	Ala	Val	Thr	Ile	Leu	Pro	Lys	Arg	Ala	Ser		
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Ile	Asp	Gly	Phe	Asp	Arg	Tyr	Phe	Arg	Ser	Arg	Thr	Leu	Ala	Asn	Asn		
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cga	aga	aat	gtg	tgg	ttt	gca	gaa	ttc	tgg	gag	gag	aat	ttt	ggc	tgc	1164	
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aag	tta	gga	tca	cat	ggg	aaa	agg	aac	agt	cat	ata	aag	aaa	tgc	aca	1212	
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Val	Gln	Phe	Val	Ile	Asp	Ala	Val	Tyr	Ser	Met	Ala	Tyr	Ala	Leu	His		

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gat	gct	cct	gga	cgt	tat	gat	atc	ttc	cag	tat	caa	ata	acc	aac	aaa	1500				
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Ser	Thr	Glu	Tyr	Lys	Val	Ile	Gly	His	Trp	Thr	Asn	Gln	Leu	His	Leu					
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Lys	Val	Glu	Asp	Met	Gln	Trp	Ala	His	Arg	Glu	His	Thr	His	Pro	Ala					
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Gln	Leu	Leu	Gly	Val	Phe	Val	Trp	Phe	Val	Val	Asp	Pro	Pro	His	Ile			
			710						715					720				
atc	att	gac	tat	gga	gag	cag	cgg	aca	cta	gat	cca	gag	aag	gcc	agg	2268		
Ile	Ile	Asp	Tyr	Gly	Glu	Gln	Arg	Thr	Leu	Asp	Pro	Glu	Lys	Ala	Arg			
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gga	gtg	ctc	aag	tgt	gac	att	tct	gat	ctc	tca	ctc	att	tgt	tca	ctt	2316		
Gly	Val	Leu	Lys	Cys	Asp	Ile	Ser	Asp	Leu	Ser	Leu	Ile	Cys	Ser	Leu			
		740					745						750					
gga	tac	agt	atc	ctc	ttg	atg	gtc	act	tgt	act	gtt	tat	gcc	aat	aaa	2364		
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Tyr	Met	Pro	Lys	Val	Tyr	Ile	Ile	Ile	Phe	His	Pro	Glu	Gln	Asn	Val			
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caa	aaa	cgc	aag	agg	agc	ttc	aag	gct	gtg	gtg	aca	gct	gcc	acc	atg	2652		
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caa	agc	aaa	ctg	atc	caa	aaa	gga	aat	gac	aga	cca	aat	ggc	gag	gtg	2700		
Gln	Ser	Lys	Leu	Ile	Gln	Lys	Gly	Asn	Asp	Arg	Pro	Asn	Gly	Glu	Val			
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Lys	Ser	Glu	Leu	Cys	Glu	Ser	Leu	Glu	Thr	Asn	Thr	Ser	Ser	Thr	Lys			
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 Thr Thr Tyr Ile Ser Tyr Ser Asn His Ser Ile *
 900 905

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 Gly Gly Leu Phe Pro Val His Ala Lys Gly Glu Arg Gly Val Pro Cys
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 Gly Glu Leu Lys Lys Glu Lys Gly Ile His Arg Leu Glu Ala Met Leu
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 Tyr Ala Ile Asp Gln Ile Asn Lys Asp Pro Asp Leu Leu Ser Asn Ile
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 Thr Leu Gly Val Arg Ile Leu Asp Thr Cys Ser Arg Asp Thr Tyr Ala
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 Leu Glu Gln Ser Leu Thr Phe Val Gln Ala Leu Ile Glu Lys Asp Ala
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 Ser Asp Val Lys Cys Ala Asn Gly Asp Pro Pro Ile Phe Thr Lys Pro
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 Asp Lys Ile Ser Gly Val Ile Gly Ala Ala Ala Ser Ser Val Ser Ile
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 Met Val Ala Asn Ile Leu Arg Leu Phe Lys Ile Pro Gln Ile Ser Tyr
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 Ala Ser Thr Ala Pro Glu Leu Ser Asp Asn Thr Arg Tyr Asp Phe Phe
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 Ile Val Thr Ala Leu Gly Trp Asn Tyr Val Ser Thr Leu Ala Ser Glu
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 Gly Asn Tyr Gly Glu Ser Gly Val Glu Ala Phe Thr Gln Ile Ser Arg
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 Glu Ile Gly Gly Val Cys Ile Ala Gln Ser Gln Lys Ile Pro Arg Glu
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 Pro Arg Pro Gly Glu Phe Glu Lys Ile Ile Lys Arg Leu Leu Glu Thr
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 Pro Asn Ala Arg Ala Val Ile Met Phe Ala Asn Glu Asp Asp Ile Arg
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 Arg Ile Leu Glu Ala Ala Lys Lys Leu Asn Gln Ser Gly His Phe Leu
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 Trp Ile Gly Ser Asp Ser Trp Gly Ser Lys Ile Ala Pro Val Tyr Gln
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Gln	Glu	Glu	Ile	Ala	Glu	Gly	Ala	Val	Thr	Ile	Leu	Pro	Lys	Arg	Ala
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Cys	Lys	Leu	Gly	Ser	His	Gly	Lys	Arg	Asn	Ser	His	Ile	Lys	Lys	Cys
	370					375					380				
Thr	Gly	Leu	Glu	Arg	Ile	Ala	Arg	Asp	Ser	Ser	Tyr	Glu	Gln	Glu	Gly
385					390					395					400
Lys	Val	Gln	Phe	Val	Ile	Asp	Ala	Val	Tyr	Ser	Met	Ala	Tyr	Ala	Leu
				405					410					415	
His	Asn	Met	His	Lys	Asp	Leu	Cys	Pro	Gly	Tyr	Ile	Gly	Leu	Cys	Pro
			420					425					430		
Arg	Met	Ser	Thr	Ile	Asp	Gly	Lys	Glu	Leu	Leu	Gly	Tyr	Ile	Arg	Ala
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Ala	Ala	Pro	Asp	Thr	Ile	Ile	Cys	Ser	Phe	Arg	Arg	Val	Phe	Leu	Gly
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	770					775					780				
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785					790					795					800
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Tyr	Arg	Asp	Tyr	Arg	Lys	Glu	Gly	Tyr	Gly	Leu	Leu	Ile	Leu	Glu	Gly		
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Glu	Asp	Trp	Gln	Arg	Val	Arg	Ser	Ala	Phe	Gln	Lys	Lys	Leu	Met	Lys		
			155					160					165				
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Pro	Gly	Glu	Val	Met	Lys	Leu	Asp	Asn	Lys	Ile	Asn	Glu	Val	Leu	Ala		
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gat	ttt	atg	ggc	aga	ata	gat	gag	ctc	tgt	gat	gaa	aga	ggc	cac	gtc	990	
Asp	Phe	Met	Gly	Arg	Ile	Asp	Glu	Leu	Cys	Asp	Glu	Arg	Gly	His	Val		
	185					190					195						
gaa	gac	ttg	tac	agc	gaa	ctg	aac	aaa	tgg	tcg	ttt	gaa	agt	atc	tgc	1038	
Glu	Asp	Leu	Tyr	Ser	Glu	Leu	Asn	Lys	Trp	Ser	Phe	Glu	Ser	Ile	Cys		
200					205					210					215		
ctc	gtg	ttg	tat	gag	aag	aga	ttt	ggg	ctt	ctc	cag	aag	aat	gca	ggg	1086	
Leu	Val	Leu	Tyr	Glu	Lys	Arg	Phe	Gly	Leu	Leu	Gln	Lys	Asn	Ala	Gly		
				220					225					230			
gat	gaa	gct	gtg	aac	ttc	atc	atg	gcc	atc	aaa	aca	atg	atg	agc	acg	1134	
Asp	Glu	Ala	Val	Asn	Phe	Ile	Met	Ala	Ile	Lys	Thr	Met	Met	Ser	Thr		
				235				240					245				
ttt	ggg	agg	atg	atg	gtc	act	cca	gtc	gag	ctg	cac	aag	agc	ctc	aac	1182	
Phe	Gly	Arg	Met	Met	Val	Thr	Pro	Val	Glu	Leu	His	Lys	Ser	Leu	Asn		
		250					255					260					
acc	aag	gtc	tgg	cag	gga	cac	act	ctg	gcc	tgg	gac	acc	att	ttc	aaa	1230	
Thr	Lys	Val	Trp	Gln	Gly	His	Thr	Leu	Ala	Trp	Asp	Thr	Ile	Phe	Lys		
	265					270					275						
tca	gtc	aaa	gct	tgt	atc	gac	aac	cgg	tta	gag	aag	tat	tct	cag	cag	1278	
Ser	Val	Lys	Ala	Cys	Ile	Asp	Asn	Arg	Leu	Glu	Lys	Tyr	Ser	Gln	Gln		
280					285					290					295		
cct	agt	gca	gat	ttc	ctt	tgt	gac	att	tat	cac	cag	aat	cgg	ctt	tca	1326	
Pro	Ser	Ala	Asp	Phe	Leu	Cys	Asp	Ile	Tyr	His	Gln	Asn	Arg	Leu	Ser		
				300					305					310			
aag	aaa	gaa	ttg	tat	gct	gct	gtc	aca	gag	ctc	cag	ctg	gct	gcg	gtg	1374	
Lys	Lys	Glu	Leu	Tyr	Ala	Ala	Val	Thr	Glu	Leu	Gln	Leu	Ala	Ala	Val		
			315					320					325				
gaa	acg	aca	gca	aac	agt	cta	atg	tgg	att	ctc	tac	aat	tta	tcc	cgt	1422	
Glu	Thr	Thr	Ala	Asn	Ser	Leu	Met	Trp	Ile	Leu	Tyr	Asn	Leu	Ser	Arg		
		330					335					340					
aat	ccc	caa	gtg	caa	caa	aag	ctt	ctt	aag	gaa	att	caa	agt	gta	tta	1470	
Asn	Pro	Gln	Val	Gln	Gln	Lys	Leu	Leu	Lys	Glu	Ile	Gln	Ser	Val	Leu		

345	350	355	
cct gag aat cag agg cca cgg gag gaa gat ttg agg aat atg ccg tat			1518
Pro Glu Asn Gln Arg Pro Arg Glu Glu Asp Leu Arg Asn Met Pro Tyr			
360	365	370	375
tta aaa gcc tgt ctg aaa gaa tct atg agg ctt acc ccg ggt gta cca			1566
Leu Lys Ala Cys Leu Lys Glu Ser Met Arg Leu Thr Pro Gly Val Pro			
	380	385	390
ttt aca act cgg act ctt gac aag gca aca gtt ctg ggt gaa tat gct			1614
Phe Thr Thr Arg Thr Leu Asp Lys Ala Thr Val Leu Gly Glu Tyr Ala			
	395	400	405
tta ccc aaa gga aca gtg ctc atg cta aat acc cag gtg ttg gga tcc			1662
Leu Pro Lys Gly Thr Val Leu Met Leu Asn Thr Gln Val Leu Gly Ser			
	410	415	420
agt gaa gac aat ttt gaa gat tca agt cag ttt aga cct gaa cgt tgg			1710
Ser Glu Asp Asn Phe Glu Asp Ser Ser Gln Phe Arg Pro Glu Arg Trp			
	425	430	435
ctt cag gag aag gaa aaa att aat cct ttt gcg cat ctt cca ttt ggc			1758
Leu Gln Glu Lys Glu Lys Ile Asn Pro Phe Ala His Leu Pro Phe Gly			
	440	445	450
gtt gga aaa aga atg tgc att ggt cgc cga tta gca gag ctt caa ctg			1806
Val Gly Lys Arg Met Cys Ile Gly Arg Arg Leu Ala Glu Leu Gln Leu			
	460	465	470
cat ttg gct ctt tgt tgg att gtc cgc aaa tac gac atc cag gcc aca			1854
His Leu Ala Leu Cys Trp Ile Val Arg Lys Tyr Asp Ile Gln Ala Thr			
	475	480	485
gac aat gag cct gtt gag atg cta cac tca ggc acc ctg gtg ccc agc			1902
Asp Asn Glu Pro Val Glu Met Leu His Ser Gly Thr Leu Val Pro Ser			
	490	495	500
cgg gaa ctc ccc atc gcg ttt tgc cag cga taa tacgcctcag atgggtggtat			1955
Arg Glu Leu Pro Ile Ala Phe Cys Gln Arg *			
505	510		
ttgctaacat catatccaac tcaggggaagc ggactgagtg ctgggatcca aggcattcta			2015
cagggttcac tgctggttta cacttcacct gtgtcagcac catcttcagg tgcttagaat			2075
ggcctgggag cctgttctgt cttgcatctt ccattgacatg aaagggaggc tggcacttgt			2135
cagtcaggta gaggttacaa accgtttcag gccctgctac cacattcact gtttgaatct			2195
ttaattccca agaataagtt tacatttcac aatgaatgac ctacaacagc taaattttct			2255
ggggctggga gtaatactga caatccattt actgtagctc tgcttaatgt actacttagg			2315
aaaatgtccc tgcttaataa tgtaagccaa gctaaatgat ggttaaagtt atcaggcctc			2375
ccatgaaatt gcgttcttcc tgcattgaaa taaaaacatt attgggaaac tagagaacac			2435
ctctattttt aaaaggactt taacgaagtc aaacaacttc taagactagt gattcactgg			2495
ggcattattt gtttagaggac cttaaaattg tttatttttt aaatgtgatt cttttatggc			2555
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tgcatgtgtg tgtgtgtctg tgtgtgtgtg tccgtgtatg tgtgtgtggg ttctaattgt			2675
aatttgccctc agtcattttt ttaatatattg cagtacttga tttaggatct gtggtgcagg			2735
gcatgtttca aagtttagtc acagcttaaa aacattcagt gtgactttta tattataaaa			2795
tgattttcca tgccataatt tttctgtcta ttaaatggga caagtgtaaa gcatgcaaaa			2855
gtagagatc tgttatataa catttgtttt gtgatttgaa ctccataggaa aaatatgatt			2915
tcataaatgt aaaatgcaca gaaatgcatg caatacttat aagacttaaa aattgtgttt			2975
acagatgggt tatttgtgca tatttttact actgcttttc ctaaatgcat actgtatata			3035
attctgtgta ttgtataaat atttcttcct acattatatt tttagaatat ttcagaaata			3095

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tacatttatg tctttatatt gtaataaata tgtacatatc taggtatatg ctttctctct 3155
gctgtgaaat tatttttaga attataattc acgtcttgtc atatttcacac tgtatacctt 3215
caaattctct gaaagtaaaa ataaaagttt ttaaattatt 3254

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<210> 82
<211> 513
<212> PRT
<213> Homo sapiens

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Gln Leu Arg Ser Pro Arg Gln Pro Pro Arg Leu Val Thr Ser Thr Ala
 20          25          30
Tyr Thr Ser Pro Gln Pro Arg Glu Val Pro Val Cys Pro Leu Thr Ala
 35          40          45
Gly Gly Glu Thr Gln Asn Ala Ala Ala Leu Pro Gly Pro Thr Ser Trp
 50          55          60
Pro Leu Leu Ala Ser Leu Leu Gln Ile Leu Trp Lys Gly Gly Leu Lys
 65          70          75          80
Lys Gln His Asp Thr Leu Val Glu Tyr His Lys Lys Tyr Gly Lys Ile
 85          90          95
Phe Arg Met Lys Leu Gly Ser Phe Glu Ser Val His Leu Gly Ser Pro
100          105          110
Cys Leu Leu Glu Ala Leu Tyr Arg Thr Glu Ser Val Pro Gln Arg Leu
115          120          125
Glu Ile Lys Pro Trp Lys Ala Tyr Arg Asp Tyr Arg Lys Glu Gly Tyr
130          135          140
Gly Leu Leu Ile Leu Glu Gly Glu Asp Trp Gln Arg Val Arg Ser Ala
145          150          155          160
Phe Gln Lys Lys Leu Met Lys Pro Gly Glu Val Met Lys Leu Asp Asn
165          170          175
Lys Ile Asn Glu Val Leu Ala Asp Phe Met Gly Arg Ile Asp Glu Leu
180          185          190
Cys Asp Glu Arg Gly His Val Glu Asp Leu Tyr Ser Glu Leu Asn Lys
195          200          205
Trp Ser Phe Glu Ser Ile Cys Leu Val Leu Tyr Glu Lys Arg Phe Gly
210          215          220
Leu Leu Gln Lys Asn Ala Gly Asp Glu Ala Val Asn Phe Ile Met Ala
225          230          235          240
Ile Lys Thr Met Met Ser Thr Phe Gly Arg Met Met Val Thr Pro Val
245          250          255
Glu Leu His Lys Ser Leu Asn Thr Lys Val Trp Gln Gly His Thr Leu
260          265          270
Ala Trp Asp Thr Ile Phe Lys Ser Val Lys Ala Cys Ile Asp Asn Arg
275          280          285
Leu Glu Lys Tyr Ser Gln Gln Pro Ser Ala Asp Phe Leu Cys Asp Ile
290          295          300
Tyr His Gln Asn Arg Leu Ser Lys Lys Glu Leu Tyr Ala Ala Val Thr
305          310          315          320
Glu Leu Gln Leu Ala Val Glu Thr Thr Ala Asn Ser Leu Met Trp
325          330          335
Ile Leu Tyr Asn Leu Ser Arg Asn Pro Gln Val Gln Gln Lys Leu Leu
340          345          350
Lys Glu Ile Gln Ser Val Leu Pro Glu Asn Gln Arg Pro Arg Glu Glu
355          360          365
Asp Leu Arg Asn Met Pro Tyr Leu Lys Ala Cys Leu Lys Glu Ser Met
370          375          380
Arg Leu Thr Pro Gly Val Pro Phe Thr Thr Arg Thr Leu Asp Lys Ala
385          390          395          400
Thr Val Leu Gly Glu Tyr Ala Leu Pro Lys Gly Thr Val Leu Met Leu

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				405					410				415				
Asn	Thr	Gln	Val	Leu	Gly	Ser	Ser	Glu	Asp	Asn	Phe	Glu	Asp	Ser	Ser		
			420					425					430				
Gln	Phe	Arg	Pro	Glu	Arg	Trp	Leu	Gln	Glu	Lys	Glu	Lys	Ile	Asn	Pro		
		435					440					445					
Phe	Ala	His	Leu	Pro	Phe	Gly	Val	Gly	Lys	Arg	Met	Cys	Ile	Gly	Arg		
	450					455					460						
Arg	Leu	Ala	Glu	Leu	Gln	Leu	His	Leu	Ala	Leu	Cys	Trp	Ile	Val	Arg		
465					470					475					480		
Lys	Tyr	Asp	Ile	Gln	Ala	Thr	Asp	Asn	Glu	Pro	Val	Glu	Met	Leu	His		
			485					490						495			
Ser	Gly	Thr	Leu	Val	Pro	Ser	Arg	Glu	Leu	Pro	Ile	Ala	Phe	Cys	Gln		
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Arg																	

<210> 83
 <211> 1662
 <212> DNA
 <213> Homo sapiens

<220>
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Met	Lys	Leu	Gly	Ser	Ser	Arg	Ala	Gly	Pro	Gly	Arg	Gly	Ser	Ala	Gly	
1				5					10					15		
ctc ctg cct ggc gtc cac gag ctg ccc atg ggc atc cct gcc ccc tgg																96
Leu	Leu	Pro	Gly	Val	His	Glu	Leu	Pro	Met	Gly	Ile	Pro	Ala	Pro	Trp	
			20					25					30			
ggg acc agt cct ctc tcc ttc cac agg aag tgc tct ctc tgg gcc cct																144
Gly	Thr	Ser	Pro	Leu	Ser	Phe	His	Arg	Lys	Cys	Ser	Leu	Trp	Ala	Pro	
		35				40						45				
ggg agg ccc ttc ctc act ctg gtc ctg ctg gtt tcc atc aag caa gtt																192
Gly	Arg	Pro	Phe	Leu	Thr	Leu	Val	Leu	Leu	Val	Ser	Ile	Lys	Gln	Val	
	50					55				60						
aca gga tcc ctc ctt gag gaa acg act cgg aag tgg gct cag tac aaa																240
Thr	Gly	Ser	Leu	Leu	Glu	Glu	Thr	Thr	Arg	Lys	Trp	Ala	Gln	Tyr	Lys	
65				70					75					80		
cag gca tgt ctg aga gac tta ctc aag gaa cct tct ggc ata ttt tgt																288
Gln	Ala	Cys	Leu	Arg	Asp	Leu	Leu	Lys	Glu	Pro	Ser	Gly	Ile	Phe	Cys	
			85					90					95			
aac ggg aca ttt gat cag tac gtg tgt tgg cct cat tct tct cct gga																336
Asn	Gly	Thr	Phe	Asp	Gln	Tyr	Val	Cys	Trp	Pro	His	Ser	Ser	Pro	Gly	
		100					105						110			
aat gtc tct gta ccc tgc cct tca tac tta cct tgg tgg agt gaa gag																384
Asn	Val	Ser	Val	Pro	Cys	Pro	Ser	Tyr	Leu	Pro	Trp	Trp	Ser	Glu	Glu	
		115					120					125				
agc tca gga agg gcc tac aga cac tgc ttg gct cag ggg act tgg cag																432

Ser	Ser	Gly	Arg	Ala	Tyr	Arg	His	Cys	Leu	Ala	Gln	Gly	Thr	Trp	Gln		
130						135					140						
acg	ata	gag	aac	gcc	acg	gat	att	tgg	cag	gat	gac	tcc	gaa	tgc	tcc	480	
Thr	Ile	Glu	Asn	Ala	Thr	Asp	Ile	Trp	Gln	Asp	Asp	Ser	Glu	Cys	Ser		
145					150				155						160		
gag	aac	cac	agc	ttc	aag	caa	aac	gtg	gac	cgt	tat	gcc	ttg	ctg	tca	528	
Glu	Asn	His	Ser	Phe	Lys	Gln	Asn	Val	Asp	Arg	Tyr	Ala	Leu	Leu	Ser		
				165				170						175			
acc	ttg	cag	ctg	atg	tac	acc	gtg	gga	tac	tcc	ttc	tct	ctt	atc	tcc	576	
Thr	Leu	Gln	Leu	Met	Tyr	Thr	Val	Gly	Tyr	Ser	Phe	Ser	Leu	Ile	Ser		
			180					185					190				
ctc	ttc	ctg	gct	ctc	acc	ctc	ctc	ttg	ttt	ctt	cga	aaa	ctc	cac	tgc	624	
Leu	Phe	Leu	Ala	Leu	Thr	Leu	Leu	Leu	Phe	Leu	Arg	Lys	Leu	His	Cys		
		195					200					205					
acg	cgc	aac	tac	atc	cac	atg	aac	ttg	ttt	gct	tct	ttc	atc	ctg	aga	672	
Thr	Arg	Asn	Tyr	Ile	His	Met	Asn	Leu	Phe	Ala	Ser	Phe	Ile	Leu	Arg		
	210					215					220						
acc	ctg	gct	gta	ctg	gtg	aag	gac	gtc	gtc	ttc	tac	aac	tct	tac	tcc	720	
Thr	Leu	Ala	Val	Leu	Val	Lys	Asp	Val	Val	Phe	Tyr	Asn	Ser	Tyr	Ser		
	225				230					235					240		
aag	agg	cct	gac	aat	gag	aat	ggg	tgg	atg	tcc	tac	ctg	tca	gag	atg	768	
Lys	Arg	Pro	Asp	Asn	Glu	Asn	Gly	Trp	Met	Ser	Tyr	Leu	Ser	Glu	Met		
				245				250						255			
tcc	acc	tcc	tgc	cgc	tca	gtc	cag	gtt	ctc	ttg	cat	tac	ttt	gtg	ggt	816	
Ser	Thr	Ser	Cys	Arg	Ser	Val	Gln	Val	Leu	Leu	His	Tyr	Phe	Val	Gly		
			260					265					270				
gcc	aat	tac	tta	tgg	ctg	ctg	gtt	gaa	ggc	ctc	tac	ctc	cac	acg	ctg	864	
Ala	Asn	Tyr	Leu	Trp	Leu	Leu	Val	Glu	Gly	Leu	Tyr	Leu	His	Thr	Leu		
		275					280					285					
ctg	gag	ccc	aca	gtg	ctt	cct	gag	agg	cgg	ctg	tgg	ccc	aga	tac	ctg	912	
Leu	Glu	Pro	Thr	Val	Leu	Pro	Glu	Arg	Arg	Leu	Trp	Pro	Arg	Tyr	Leu		
	290					295					300						
ctg	ttg	ggt	tgg	gcc	ttc	cct	gtg	cta	ttt	gtt	gta	ccc	tgg	ggt	ttc	960	
Leu	Leu	Gly	Trp	Ala	Phe	Pro	Val	Leu	Phe	Val	Val	Pro	Trp	Gly	Phe		
	305				310					315					320		
gcc	cgt	gca	cac	ctg	gag	aac	aca	ggg	tgc	tgg	aca	aca	aat	ggg	aat	1008	
Ala	Arg	Ala	His	Leu	Glu	Asn	Thr	Gly	Cys	Trp	Thr	Thr	Asn	Gly	Asn		
				325					330					335			
aag	aaa	atc	tgg	tgg	atc	atc	cga	gga	ccc	atg	atg	ctc	tgt	gta	aca	1056	
Lys	Lys	Ile	Trp	Trp	Ile	Ile	Arg	Gly	Pro	Met	Met	Leu	Cys	Val	Thr		
			340					345					350				
gtc	aat	ttc	ttc	atc	ttc	ctg	aaa	att	ctc	aag	ctt	ctc	att	tct	aag	1104	
Val	Asn	Phe	Phe	Ile	Phe	Leu	Lys	Ile	Leu	Lys	Leu	Leu	Ile	Ser	Lys		
		355					360					365					
ctc	aaa	gct	cat	caa	atg	tgc	ttc	aga	gat	tat	aaa	tac	aga	ttg	gca	1152	
Leu	Lys	Ala	His	Gln	Met	Cys	Phe	Arg	Asp	Tyr	Lys	Tyr	Arg	Leu	Ala		

370	375	380	
aaa tca aca ctg gtc ctc att cct tta ttg ggc gtt cat gag atc ctc Lys Ser Thr Leu Val Leu Ile Pro Leu Leu Gly Val His Glu Ile Leu 385 390 395 400			1200
ttc tct ttc atc act gat gat caa gtt gaa gga ttt gca aaa ctt ata Phe Ser Phe Ile Thr Asp Asp Gln Val Glu Gly Phe Ala Lys Leu Ile 405 410 415			1248
cga ctt ttc att cag ttg aca ctg agc tcc ttt cat ggg ttc ctg gtg Arg Leu Phe Ile Gln Leu Thr Leu Ser Ser Phe His Gly Phe Leu Val 420 425 430			1296
gcc ttg cag tat ggt ttt gcc aat gga gaa gtg aag gct gag ctg cgg Ala Leu Gln Tyr Gly Phe Ala Asn Gly Glu Val Lys Ala Glu Leu Arg 435 440 445			1344
aaa tac tgg gtc cgc ttc ttg cta gcc cgc cac tca ggc tgc aga gcc Lys Tyr Trp Val Arg Phe Leu Leu Ala Arg His Ser Gly Cys Arg Ala 450 455 460			1392
tgt gtc ctg ggg aag gac ttc cgg ttc cta gga aaa tgt ccc aag aag Cys Val Leu Gly Lys Asp Phe Arg Phe Leu Gly Lys Cys Pro Lys Lys 465 470 475 480			1440
ctc tcg gaa gga gat ggc gct gag aag ctt cgg aag ctg cag ccc tca Leu Ser Glu Gly Asp Gly Ala Glu Lys Leu Arg Lys Leu Gln Pro Ser 485 490 495			1488
ctt aac agt ggg cgg ctc cta cat cta gcc atg cga ggt ctt ggg gag Leu Asn Ser Gly Arg Leu Leu His Leu Ala Met Arg Gly Leu Gly Glu 500 505 510			1536
ctg ggc gcc cag ccc caa cag gac cat gca cgc tgg ccc cgg ggc agc Leu Gly Ala Gln Pro Gln Gln Asp His Ala Arg Trp Pro Arg Gly Ser 515 520 525			1584
agc ctg tcc gag tgc agt gag ggg gat gtc acc atg gcc aac acc atg Ser Leu Ser Glu Cys Ser Glu Gly Asp Val Thr Met Ala Asn Thr Met 530 535 540			1632
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<210> 84
 <211> 553
 <212> PRT
 <213> Homo sapiens

<400> 84
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 Leu Leu Pro Gly Val His Glu Leu Pro Met Gly Ile Pro Ala Pro Trp
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 Gly Thr Ser Pro Leu Ser Phe His Arg Lys Cys Ser Leu Trp Ala Pro
 35 40 45
 Gly Arg Pro Phe Leu Thr Leu Val Leu Leu Val Ser Ile Lys Gln Val
 50 55 60

Thr	Gly	Ser	Leu	Leu	Glu	Glu	Thr	Thr	Arg	Lys	Trp	Ala	Gln	Tyr	Lys
65					70					75					80
Gln	Ala	Cys	Leu	Arg	Asp	Leu	Leu	Lys	Glu	Pro	Ser	Gly	Ile	Phe	Cys
				85					90					95	
Asn	Gly	Thr	Phe	Asp	Gln	Tyr	Val	Cys	Trp	Pro	His	Ser	Ser	Pro	Gly
			100					105					110		
Asn	Val	Ser	Val	Pro	Cys	Pro	Ser	Tyr	Leu	Pro	Trp	Trp	Ser	Glu	Glu
		115						120					125		
Ser	Ser	Gly	Arg	Ala	Tyr	Arg	His	Cys	Leu	Ala	Gln	Gly	Thr	Trp	Gln
		130				135						140			
Thr	Ile	Glu	Asn	Ala	Thr	Asp	Ile	Trp	Gln	Asp	Asp	Ser	Glu	Cys	Ser
145					150					155					160
Glu	Asn	His	Ser	Phe	Lys	Gln	Asn	Val	Asp	Arg	Tyr	Ala	Leu	Leu	Ser
				165					170						175
Thr	Leu	Gln	Leu	Met	Tyr	Thr	Val	Gly	Tyr	Ser	Phe	Ser	Leu	Ile	Ser
			180					185						190	
Leu	Phe	Leu	Ala	Leu	Thr	Leu	Leu	Leu	Phe	Leu	Arg	Lys	Leu	His	Cys
		195					200					205			
Thr	Arg	Asn	Tyr	Ile	His	Met	Asn	Leu	Phe	Ala	Ser	Phe	Ile	Leu	Arg
		210				215						220			
Thr	Leu	Ala	Val	Leu	Val	Lys	Asp	Val	Val	Phe	Tyr	Asn	Ser	Tyr	Ser
225					230					235					240
Lys	Arg	Pro	Asp	Asn	Glu	Asn	Gly	Trp	Met	Ser	Tyr	Leu	Ser	Glu	Met
				245					250					255	
Ser	Thr	Ser	Cys	Arg	Ser	Val	Gln	Val	Leu	Leu	His	Tyr	Phe	Val	Gly
			260					265						270	
Ala	Asn	Tyr	Leu	Trp	Leu	Leu	Val	Glu	Gly	Leu	Tyr	Leu	His	Thr	Leu
		275					280						285		
Leu	Glu	Pro	Thr	Val	Leu	Pro	Glu	Arg	Arg	Leu	Trp	Pro	Arg	Tyr	Leu
		290				295					300				
Leu	Leu	Gly	Trp	Ala	Phe	Pro	Val	Leu	Phe	Val	Val	Pro	Trp	Gly	Phe
305					310					315					320
Ala	Arg	Ala	His	Leu	Glu	Asn	Thr	Gly	Cys	Trp	Thr	Thr	Asn	Gly	Asn
				325					330					335	
Lys	Lys	Ile	Trp	Trp	Ile	Ile	Arg	Gly	Pro	Met	Met	Leu	Cys	Val	Thr
			340					345					350		
Val	Asn	Phe	Phe	Ile	Phe	Leu	Lys	Ile	Leu	Lys	Leu	Leu	Ile	Ser	Lys
		355					360						365		
Leu	Lys	Ala	His	Gln	Met	Cys	Phe	Arg	Asp	Tyr	Lys	Tyr	Arg	Leu	Ala
		370				375					380				
Lys	Ser	Thr	Leu	Val	Leu	Ile	Pro	Leu	Leu	Gly	Val	His	Glu	Ile	Leu
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Ala	Leu	Gln	Tyr	Gly	Phe	Ala	Asn	Gly	Glu	Val	Lys	Ala	Glu	Leu	Arg
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Lys	Tyr	Trp	Val	Arg	Phe	Leu	Leu	Ala	Arg	His	Ser	Gly	Cys	Arg	Ala
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Cys	Val	Leu	Gly	Lys	Asp	Phe	Arg	Phe	Leu	Gly	Lys	Cys	Pro	Lys	Lys
465					470					475					480
Leu	Ser	Glu	Gly	Asp	Gly	Ala	Glu	Lys	Leu	Arg	Lys	Leu	Gln	Pro	Ser
				485					490					495	
Leu	Asn	Ser	Gly	Arg	Leu	Leu	His	Leu	Ala	Met	Arg	Gly	Leu	Gly	Glu
			500					505					510		
Leu	Gly	Ala	Gln	Pro	Gln	Gln	Asp	His	Ala	Arg	Trp	Pro	Arg	Gly	Ser
		515					520						525		
Ser	Leu	Ser	Glu	Cys	Ser	Glu	Gly	Asp	Val	Thr	Met	Ala	Asn	Thr	Met
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550

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aag ctc agc ctg tgg tgg ctc ctt ctg acc cca gca ggt gga gag gaa 638
Lys Leu Ser Leu Trp Trp Leu Leu Leu Thr Pro Ala Gly Gly Glu Glu
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gct aag cgc cca cct ccc agg gct cct gga gac cca ctc tcc tct ccc 686
Ala Lys Arg Pro Pro Pro Arg Ala Pro Gly Asp Pro Leu Ser Ser Pro
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agt ccc acg gca ttg ccg cag gga ggc tgc cat acc gag act gag gac 734
Ser Pro Thr Ala Leu Pro Gln Gly Gly Ser His Thr Glu Thr Glu Asp
          45             50             55             60

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cgg ctc ttc aaa cac ctc ttc cgg ggc tac aac cgc tgg gcg cgc ccg 782
Arg Leu Phe Lys His Leu Phe Arg Gly Tyr Asn Arg Trp Ala Arg Pro
          65             70             75

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gtg ccc aac act tca gac gtg gtg att gtg cgc ttt gga ctg tcc atc 830
Val Pro Asn Thr Ser Asp Val Val Ile Val Arg Phe Gly Leu Ser Ile
          80             85             90

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gct cag ctc atc gat gtg gat gag aag aac caa atg atg acc acc aac 878
Ala Gln Leu Ile Asp Val Asp Glu Lys Asn Gln Met Met Thr Thr Asn
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gtc tgg cta aaa cag gag tgg agc gac tac aaa ctg cgc tgg aac ccc 926
Val Trp Leu Lys Gln Glu Trp Ser Asp Tyr Lys Leu Arg Trp Asn Pro
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gct gat ttt ggc aac atc aca tct ctc agg gtc cct tct gag atg atc 974
Ala Asp Phe Gly Asn Ile Thr Ser Leu Arg Val Pro Ser Glu Met Ile
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tgg atc ccc gac att gtt ctc tac aac aat gca gat ggg gag ttt gca 1022
Trp Ile Pro Asp Ile Val Leu Tyr Asn Asn Ala Asp Gly Glu Phe Ala
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Val Thr His Met Thr Lys Ala His Leu Phe Ser Thr Gly Thr Val His	
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tgg gtg ccc ccg gcc atc tac aag agc tcc tgc agc atc gac gtc acc	1118
Trp Val Pro Pro Ala Ile Tyr Lys Ser Ser Cys Ser Ile Asp Val Thr	
175 180 185	
ttc ttc ccc ttc gac cag cag aac tgc aag atg aag ttt ggc tcc tgg	1166
Phe Phe Pro Phe Asp Gln Gln Asn Cys Lys Met Lys Phe Gly Ser Trp	
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act tat gac aag gcc aag atc gac ctg gag cag atg gag cag act gtg	1214
Thr Tyr Asp Lys Ala Lys Ile Asp Leu Glu Gln Met Glu Gln Thr Val	
205 210 215 220	
gac ctg aag gac tac tgg gag agc ggc gag tgg gcc atc gtc aat gcc	1262
Asp Leu Lys Asp Tyr Trp Glu Ser Gly Glu Trp Ala Ile Val Asn Ala	
225 230 235	
acg ggc acc tac aac agc aag aag tac gac tgc tgc gcc gag atc tac	1310
Thr Gly Thr Tyr Asn Ser Lys Lys Tyr Asp Cys Cys Ala Glu Ile Tyr	
240 245 250	
ccc gac gtc acc tac gcc ttc gtc atc cgg cgg ctg ccg ctc ttc tac	1358
Pro Asp Val Thr Tyr Ala Phe Val Ile Arg Arg Leu Pro Leu Phe Tyr	
255 260 265	
acc atc aac ctc atc atc ccc tgc ctg ctc atc tcc tgc ctc act gtg	1406
Thr Ile Asn Leu Ile Ile Pro Cys Leu Leu Ile Ser Cys Leu Thr Val	
270 275 280	
ctg gtc ttc tac ctg ccc tcc gac tgc ggc gag aag atc acg ctg tgc	1454
Leu Val Phe Tyr Leu Pro Ser Asp Cys Gly Glu Lys Ile Thr Leu Cys	
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Ile Ser Val Leu Leu Ser Leu Thr Val Phe Leu Leu Leu Ile Thr Glu	
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Ile Ile Pro Ser Thr Ser Leu Val Ile Pro Leu Ile Gly Glu Tyr Leu	
320 325 330	
ctg ttc acc atg atc ttc gtc acc ctg tcc atc gtc atc acc gtc ttc	1598
Leu Phe Thr Met Ile Phe Val Thr Leu Ser Ile Val Ile Thr Val Phe	
335 340 345	
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Val Leu Asn Val His His Arg Ser Pro Ser Thr His Thr Met Pro His	
350 355 360	
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Trp Val Arg Gly Ala Leu Leu Gly Cys Val Pro Arg Trp Leu Leu Met	
365 370 375 380	
aac cgg ccc cca cca ccc gtg gag ctc tgc cac ccc cta cgc ctg aag	1742
Asn Arg Pro Pro Pro Pro Val Glu Leu Cys His Pro Leu Arg Leu Lys	
385 390 395	

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 Arg Glu Val Val Val Glu Glu Glu Asp Arg Trp Ala Cys Ala Gly His
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 gtg gcc ccc tct gtg ggc acc ctc tgc agc cac ggc cac ctg cac tct 1886
 Val Ala Pro Ser Val Gly Thr Leu Cys Ser His Gly His Leu His Ser
 430 435 440
 ggg gcc tca ggt ccc aag gct gag gct ctg ctg cag gag ggt gag ctg 1934
 Gly Ala Ser Gly Pro Lys Ala Glu Ala Leu Leu Gln Glu Gly Glu Leu
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 ctg cta tca ccc cac atg cag aag gca ctg gaa ggt gtg cac tac att 1982
 Leu Leu Ser Pro His Met Gln Lys Ala Leu Glu Gly Val His Tyr Ile
 465 470 475
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 Ala Asp His Leu Arg Ser Glu Asp Ala Asp Ser Ser Val Lys Glu Asp
 480 485 490
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 Trp Lys Tyr Val Ala Met Val Ile Asp Arg Ile Phe Leu Trp Leu Phe
 495 500 505
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 Ile Ile Val Cys Phe Leu Gly Thr Ile Gly Leu Phe Leu Pro Pro Phe
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 cta gct gga atg atc tga ctgcacctcc ctcgagctgg ctcccagggc 2174
 Leu Ala Gly Met Ile *
 525

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 35 40 45
 Leu Pro Gln Gly Gly Ser His Thr Glu Thr Glu Asp Arg Leu Phe Lys
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 His Leu Phe Arg Gly Tyr Asn Arg Trp Ala Arg Pro Val Pro Asn Thr

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Gln	Glu	Trp	Ser	Asp	Tyr	Lys	Leu	Arg	Trp	Asn	Pro	Ala	Asp	Phe
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Ile	Val	Leu	Tyr	Asn	Asn	Ala	Asp	Gly	Glu	Phe	Ala	Val	Thr	His
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Ala	Ile	Tyr	Lys	Ser	Ser	Cys	Ser	Ile	Asp	Val	Thr	Phe	Phe	Phe
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			325						330					Met
Ile	Phe	Val	Thr	Leu	Ser	Ile	Val	Ile	Thr	Val	Phe	Val	Leu	Asn
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His	His	Arg	Ser	Pro	Ser	Thr	His	Thr	Met	Pro	His	Trp	Val	Arg
		355				360						365		Gly
Ala	Leu	Gly	Cys	Val	Pro	Arg	Trp	Leu	Leu	Met	Asn	Arg	Pro	Pro
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385				390						395				Ser
Tyr	His	Trp	Leu	Glu	Ser	Asn	Val	Asp	Ala	Glu	Glu	Arg	Glu	Val
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Val	Glu	Glu	Glu	Asp	Arg	Trp	Ala	Cys	Ala	Gly	His	Val	Ala	Pro
			420					425				430		Ser
Val	Gly	Thr	Leu	Cys	Ser	His	Gly	His	Leu	His	Ser	Gly	Ala	Ser
		435					440					445		Gly
Pro	Lys	Ala	Glu	Ala	Leu	Leu	Gln	Glu	Gly	Glu	Leu	Leu	Leu	Ser
		450				455					460			Pro
His	Met	Gln	Lys	Ala	Leu	Glu	Gly	Val	His	Tyr	Ile	Ala	Asp	His
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			485						490					Val
Ala	Met	Val	Ile	Asp	Arg	Ile	Phe	Leu	Trp	Leu	Phe	Ile	Ile	Val
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Arg Leu Met Arg Pro Leu Trp Leu Leu Leu Ala Val Gly Val Phe Asp
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Glu Glu Ile Val Ser Glu Lys Gln Ala Glu Glu Ser His Arg Gln Asp
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agc gcc aac ctg ctc atc ttc atc ctg ctg ctc acc ctc acc att ctc      293
Ser Ala Asn Leu Leu Ile Phe Ile Leu Leu Leu Thr Leu Thr Ile Leu
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aca atc tgg ctc ttc aag cac cgc cgg gcc cgc ttc ctg cac gaa acc      341
Thr Ile Trp Leu Phe Lys His Arg Arg Ala Arg Phe Leu His Glu Thr
                90                95                100

ggc ctg gct atg att tat ggt ctt ttg gtg ggc ctt gtg ctt cgg tat      389
Gly Leu Ala Met Ile Tyr Gly Leu Leu Val Gly Leu Val Leu Arg Tyr
                105                110                115

ggc att cat gtt ccg agt gat gta aat aat gtg acc ctg agc tgt gaa      437
Gly Ile His Val Pro Ser Asp Val Asn Asn Val Thr Leu Ser Cys Glu
                120                125                130

gtg cag tca agt cca act acc tta ctg gtt act ttt gat cca gaa gta      485
Val Gln Ser Ser Pro Thr Thr Leu Leu Val Thr Phe Asp Pro Glu Val
                135                140                145                150

ttt ttc aac ata tta ctt cct cct atc ata ttt tat gca ggt tat agc      533
Phe Phe Asn Ile Leu Leu Pro Pro Ile Ile Phe Tyr Ala Gly Tyr Ser
                155                160                165

ctg aaa agg aga cat ttt ttt cga aat ctt ggg tct atc cta gca tac      581
Leu Lys Arg Arg His Phe Phe Arg Asn Leu Gly Ser Ile Leu Ala Tyr
                170                175                180

gct ttt ctt gga aca gca att tct tgt ttc gtt att ggg tca ata atg      629
Ala Phe Leu Gly Thr Ala Ile Ser Cys Phe Val Ile Gly Ser Ile Met
                185                190                195

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Phe Tyr Phe Thr Asp Cys Leu Leu Phe Gly Ala Ile Val Ser Ala Thr	
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gat cca gtg act gtt ctt gct ata ttc cac gag ctt caa gtt gat gtt	773
Asp Pro Val Thr Val Leu Ala Ile Phe His Glu Leu Gln Val Asp Val	
235 240 245	
gaa ctc tat gca ctt ctt ttt ggt gaa agt gtc ctc aat gat gct gtt	821
Glu Leu Tyr Ala Leu Leu Phe Gly Glu Ser Val Leu Asn Asp Ala Val	
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265 270 275	
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Asn Ser His Thr Phe Asp Val Thr Ala Met Phe Lys Ser Ile Gly Ile	
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Gln His Arg Thr Lys Gln Leu Phe Glu Leu Leu Asn Phe Leu Ala Glu	
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aat ttc atc ttc tcc tac atg ggg ctg aca ctg ttc acc ttc cag aac	1253
Asn Phe Ile Phe Ser Tyr Met Gly Leu Thr Leu Phe Thr Phe Gln Asn	
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cat gtc ttt aac cca aca ttt gta gta gga gca ttt gtt gct att ttc	1301
His Val Phe Asn Pro Thr Phe Val Val Gly Ala Phe Val Ala Ile Phe	
410 415 420	
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425 430 435	

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 Glu Ala Arg Ala Met Asp Glu Ile Val Ser Glu Lys Gln Ala Glu
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 Glu Ser His Arg Gln Asp Ser Ala Asn Leu Leu Ile Phe Ile Leu Leu
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 Leu Thr Leu Thr Ile Leu Thr Ile Trp Leu Phe Lys His Arg Arg Ala
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Gly	Cys	Arg	Cys	Val	Glu	Val	Asp	Val	Trp	Asp	Gly	Pro	Ser	Gly	Glu	
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Pro	Val	Val	Tyr	His	Gly	His	Thr	Leu	Thr	Ser	Arg	Ile	Leu	Phe	Lys	
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Asp	Val	Val	Ala	Thr	Val	Ala	Gln	Tyr	Ala	Phe	Gln	Thr	Ser	Asp	Tyr	
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Pro Val Ile Leu Ser Leu Glu Thr His Cys Ser Trp Glu Gln Gln Gln	
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Thr Met Ala Arg His Leu Thr Glu Ile Leu Gly Glu Gln Leu Leu Ser	
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acc acc ttg gat ggg gtg ctg ccc act cag ctg ccc tcg cct gag gag	1479
Thr Thr Leu Asp Gly Val Leu Pro Thr Gln Leu Pro Ser Pro Glu Glu	
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Leu Arg Arg Lys Ile Leu Val Lys Gly Lys Lys Leu Thr Leu Glu Glu	
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Glu Leu Ala Leu Glu Ser Gln Phe Glu Thr Glu Pro Glu Pro Gln Glu	
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Gln Asn Leu Gln Asn Lys Asp Lys Lys Lys Lys Ser Lys Pro Ile Leu	
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Cys Pro Ala Leu Ser Ser Leu Val Ile Tyr Leu Lys Ser Val Ser Phe	
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Arg Ser Phe Thr His Ser Lys Glu His Tyr His Phe Tyr Glu Ile Ser	
510 515 520	
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Ser Phe Ser Glu Thr Lys Ala Lys Arg Leu Ile Lys Glu Ala Gly Asn	
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Glu	His	Tyr	His	Phe	Tyr	Glu	Ile	Ser	Ser	Phe	Ser	Glu	Thr	Lys	Ala

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40 45 50	
ggt gcc aca gtc ttc tcg gcg ctc gag agc ccc ggc gag gcg gag gcg Gly Ala Thr Val Phe Ser Ala Leu Glu Ser Pro Gly Glu Ala Glu Ala	669
55 60 65	
cgg gcg cgc tgg ggc gcc acg ctg cgc aac ttc agc gct gcg cac ggc Arg Ala Arg Trp Gly Ala Thr Leu Arg Asn Phe Ser Ala Ala His Gly	717
70 75 80	
gtg gcc gag cca gag ctg cgc gcc ttc ctc cgg cac tac gag gcc gcg Val Ala Glu Pro Glu Leu Arg Ala Phe Leu Arg His Tyr Glu Ala Ala	765
85 90 95 100	
ctg gcc gcc ggc gtc cgc gcc gac gcg ctg cgc ccg cgc tgg gac ttc Leu Ala Ala Gly Val Arg Ala Asp Ala Leu Arg Pro Arg Trp Asp Phe	813
105 110 115	
ccc ggc gcc ttc tac ttc gtg ggc acc gtg gtg tca acc ata ggt ttc Pro Gly Ala Phe Tyr Phe Val Gly Thr Val Val Ser Thr Ile Gly Phe	861
120 125 130	
ggc atg acc acc ccc gcg acg gtg ggc ggg aag gcc ttc ctc atc gcc Gly Met Thr Thr Pro Ala Thr Val Gly Gly Lys Ala Phe Leu Ile Ala	909
135 140 145	
tac ggg ctg ttc ggc tgc gct ggg acc atc ctg ttc ttc aac ctc ttc Tyr Gly Leu Phe Gly Cys Ala Gly Thr Ile Leu Phe Phe Asn Leu Phe	957
150 155 160	
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165 170 175 180	
gag cgc cag ctg cgc cgc agc ggc ctg ctg ccc gcc acc ttc cgc cgc Glu Arg Gln Leu Arg Arg Ser Gly Leu Leu Pro Ala Thr Phe Arg Arg	1053
185 190 195	
ggc tcc gcg ctc tcg gag gcc gac agc ctg gcg ggc tgg aag ccc tcg Gly Ser Ala Leu Ser Glu Ala Asp Ser Leu Ala Gly Trp Lys Pro Ser	1101
200 205 210	
gtg tac cac gtg ctg ctc atc ctg ggc ctg ttc gcc gtg ctg ctg tcc Val Tyr His Val Leu Leu Ile Leu Gly Leu Phe Ala Val Leu Leu Ser	1149
215 220 225	
tgc tgc gcc tcg gcc atg tac acc agc gtg gag ggc tgg gac tac gtg Cys Cys Ala Ser Ala Met Tyr Thr Ser Val Glu Gly Trp Asp Tyr Val	1197
230 235 240	
gac tcg ctc tac ttc tgc ttc gtc acc ttc agc acc atc ggc ttc ggg Asp Ser Leu Tyr Phe Cys Phe Val Thr Phe Ser Thr Ile Gly Phe Gly	1245
245 250 255 260	
gac ctg gtg agc agc cag cac gcc gcc tac cgg aac cag ggg ctc tac Asp Leu Val Ser Ser Gln His Ala Ala Tyr Arg Asn Gln Gly Leu Tyr	1293
265 270 275	

cgc ctg ggc aac ttc ctc ttc atc ctg ctc ggc gtg tgc tgc att tac 1341
 Arg Leu Gly Asn Phe Leu Phe Ile Leu Leu Gly Val Cys Cys Ile Tyr
 280 285 290

tcg ctc ttc aac gtc atc tcc atc ctc atc aag cag gtg ctc aac tgg 1389
 Ser Leu Phe Asn Val Ile Ser Ile Leu Ile Lys Gln Val Leu Asn Trp
 295 300 305

atg ctg cgc aag ctg agc tgc cgc tgc tgc gcg cgc tgc tgc ccg gct 1437
 Met Leu Arg Lys Leu Ser Cys Arg Cys Cys Ala Arg Cys Cys Pro Ala
 310 315 320

cct ggc gcg ccc ctg gcc cgg cgc aat gcc atc acc cca ggc tcc cgg 1485
 Pro Gly Ala Pro Leu Ala Arg Arg Asn Ala Ile Thr Pro Gly Ser Arg
 325 330 335 340

ctg cgc cgc cgc ctg gcc gcg ctc ggc gcc gac ccc gcg gcc cgc gac 1533
 Leu Arg Arg Arg Leu Ala Ala Leu Gly Ala Asp Pro Ala Ala Arg Asp
 345 350 355

agc gac gcc gag ggc cgc cgc ctc tcg ggc gag ctc atc tcc atg cgc 1581
 Ser Asp Ala Glu Gly Arg Arg Leu Ser Gly Glu Leu Ile Ser Met Arg
 360 365 370

gac ctc acg gcc tcc aac aag gtg tcg ctg gcg ctg ctg cag aag cag 1629
 Asp Leu Thr Ala Ser Asn Lys Val Ser Leu Ala Leu Leu Gln Lys Gln
 375 380 385

ctg tcg gag acg gcc aac ggc tac ccg cgc agc gtg tgc gtc aac acg 1677
 Leu Ser Glu Thr Ala Asn Gly Tyr Pro Arg Ser Val Cys Val Asn Thr
 390 395 400

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 Arg Gln Asn Gly Phe Ser Gly Gly Val Gly Ala Leu Gly Ile Met Asn
 405 410 415 420

aac cgg ctg gcc gag acc agc gcc tcc agg tag accgcccgtc cgcccgcgcc 1778
 Asn Arg Leu Ala Glu Thr Ser Ala Ser Arg *
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<210> 92

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<212> PRT

<213> Homo sapiens

<400> 92

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 35 40 45
 Tyr Leu Val Ala Gly Ala Thr Val Phe Ser Ala Leu Glu Ser Pro Gly
 50 55 60
 Glu Ala Glu Ala Arg Ala Arg Trp Gly Ala Thr Leu Arg Asn Phe Ser
 65 70 75 80
 Ala Ala His Gly Val Ala Glu Pro Glu Leu Arg Ala Phe Leu Arg His

agc	ggc	acc	agc	agc	cct	cag	cct	cca	cag	tta	gat	ccc	ctg	gat	gcg	286
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ttt	ccc	cag	aag	ggc	ttg	gag	cct	ggg	gac	atc	gcg	gtg	cta	gtt	ctg	334
Phe	Pro	Gln	Lys	Gly	Leu	Glu	Pro	Gly	Asp	Ile	Ala	Val	Leu	Val	Leu	
	20					25				30						
tac	ttc	ctc	ttt	gtc	ctg	gct	gtt	gga	cta	tgg	tcc	aca	gtg	aag	acc	382
Tyr	Phe	Leu	Phe	Val	Leu	Ala	Val	Gly	Leu	Trp	Ser	Thr	Val	Lys	Thr	
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aaa	aga	gac	aca	gtg	aaa	ggc	tac	ttc	ctg	gct	gga	ggg	gac	atg	gtg	430
Lys	Arg	Asp	Thr	Val	Lys	Gly	Tyr	Phe	Leu	Ala	Gly	Gly	Asp	Met	Val	
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tgg	tgg	cca	gtg	ggc	gca	tcc	ttg	ttt	gcc	agc	aat	gtt	gga	agt	gga	478
Trp	Trp	Pro	Val	Gly	Ala	Ser	Leu	Phe	Ala	Ser	Asn	Val	Gly	Ser	Gly	
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cat	ttc	att	ggc	ctg	gca	ggg	tca	ggc	gct	gct	acg	ggc	att	tct	gta	526
His	Phe	Ile	Gly	Leu	Ala	Gly	Ser	Gly	Ala	Ala	Thr	Gly	Ile	Ser	Val	
	85						90					95				
tca	gct	tat	gaa	ctt	aat	ggc	ttg	ttt	tct	gtg	ctg	atg	ttg	gcc	tgg	574
Ser	Ala	Tyr	Glu	Leu	Asn	Gly	Leu	Phe	Ser	Val	Leu	Met	Leu	Ala	Trp	
	100					105					110					
atc	ttc	cta	ccc	atc	tac	att	gct	ggc	cag	gtc	acc	acg	atg	cca	gaa	622
Ile	Phe	Leu	Pro	Ile	Tyr	Ile	Ala	Gly	Gln	Val	Thr	Thr	Met	Pro	Glu	
	115				120					125					130	
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Tyr	Leu	Arg	Lys	Arg	Phe	Gly	Gly	Ile	Arg	Ile	Pro	Ile	Ile	Leu	Ala	
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gta	ctc	tac	cta	ttt	atc	tac	atc	ttc	acc	aag	atc	tcg	gta	gac	atg	718
Val	Leu	Tyr	Leu	Phe	Ile	Tyr	Ile	Phe	Thr	Lys	Ile	Ser	Val	Asp	Met	
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tat	gca	ggc	gcc	atc	ttc	atc	cag	cag	tct	ttg	cac	ctg	gat	ctg	tac	766
Tyr	Ala	Gly	Ala	Ile	Phe	Ile	Gln	Gln	Ser	Leu	His	Leu	Asp	Leu	Tyr	
		165					170					175				
ctg	gcc	ata	gtt	ggg	cta	ctg	gcc	atc	act	gct	gta	tac	acg	gtt	gct	814
Leu	Ala	Ile	Val	Gly	Leu	Leu	Ala	Ile	Thr	Ala	Val	Tyr	Thr	Val	Ala	
	180					185					190					
ggc	ggc	ctg	gct	gct	gtg	atc	tac	acg	gat	gcc	ctg	cag	acg	ctg	atc	862
Gly	Gly	Leu	Ala	Ala	Val	Ile	Tyr	Thr	Asp	Ala	Leu	Gln	Thr	Leu	Ile	
	195				200					205					210	
atg	ctt	ata	gga	gcg	ctc	acc	ttg	atg	ggc	tac	agt	ttt	gcc	gcg	gtt	910
Met	Leu	Ile	Gly	Ala	Leu	Thr	Leu	Met	Gly	Tyr	Ser	Phe	Ala	Ala	Val	
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ggc	ggg	atg	gaa	gga	ctg	aag	gag	aag	tac	ttc	ttg	gcc	ctg	gct	agc	958
Gly	Gly	Met	Glu	Gly	Leu	Lys	Glu	Lys	Tyr	Phe	Leu	Ala	Leu	Ala	Ser	
			230					235					240			

aac	cgg	agt	gag	aac	agc	agc	tgc	ggg	ctg	ccc	cgg	gaa	gat	gcc	ttc	1006
Asn	Arg	Ser	Glu	Asn	Ser	Ser	Cys	Gly	Leu	Pro	Arg	Glu	Asp	Ala	Phe	
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His	Ile	Phe	Arg	Asp	Pro	Leu	Thr	Ser	Asp	Leu	Pro	Trp	Pro	Gly	Val	
	260					265					270					
cta	ttt	gga	atg	tcc	atc	cca	tcc	ctc	tgg	tac	tgg	tgc	acg	gat	cag	1102
Leu	Phe	Gly	Met	Ser	Ile	Pro	Ser	Leu	Trp	Tyr	Trp	Cys	Thr	Asp	Gln	
275					280				285						290	
gtg	att	gtc	cag	cgg	act	ctg	gct	gcc	aag	aac	ctg	tcc	cat	gcc	aaa	1150
Val	Ile	Val	Gln	Arg	Thr	Leu	Ala	Ala	Lys	Asn	Leu	Ser	His	Ala	Lys	
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gga	ggg	gct	ctg	atg	gct	gca	tac	ctg	aag	gtg	ctg	ccc	ctc	ttc	ata	1198
Gly	Gly	Ala	Leu	Met	Ala	Ala	Tyr	Leu	Lys	Val	Leu	Pro	Leu	Phe	Ile	
		310						315					320			
atg	gtg	ttc	cct	ggg	atg	gtc	agc	cgc	atc	ctc	ttc	cca	gat	caa	gtg	1246
Met	Val	Phe	Pro	Gly	Met	Val	Ser	Arg	Ile	Leu	Phe	Pro	Asp	Gln	Val	
		325					330					335				
gcc	tgt	gca	gat	cca	gag	atc	tgc	cag	aag	atc	tgc	agc	aac	ccc	tca	1294
Ala	Cys	Ala	Asp	Pro	Glu	Ile	Cys	Gln	Lys	Ile	Cys	Ser	Asn	Pro	Ser	
	340					345					350					
ggc	tgt	tcg	gac	atc	gcg	tat	ccc	aaa	ctc	gtg	ctg	gaa	ctc	ctg	ccc	1342
Gly	Cys	Ser	Asp	Ile	Ala	Tyr	Pro	Lys	Leu	Val	Leu	Glu	Leu	Leu	Pro	
355					360					365					370	
aca	ggg	ctc	cgt	ggg	ctg	atg	atg	gct	gtg	atg	gtg	gcg	gct	ctc	atg	1390
Thr	Gly	Leu	Arg	Gly	Leu	Met	Met	Ala	Val	Met	Val	Ala	Ala	Leu	Met	
				375					380					385		
tcc	tcc	ctc	acc	tcc	atc	ttt	aac	agt	gcc	agc	acc	atc	ttc	acc	atg	1438
Ser	Ser	Leu	Thr	Ser	Ile	Phe	Asn	Ser	Ala	Ser	Thr	Ile	Phe	Thr	Met	
			390					395					400			
gac	ctc	tgg	aat	cac	ctc	cgg	cct	cgg	gca	tct	gag	aag	gag	ctc	atg	1486
Asp	Leu	Trp	Asn	His	Leu	Arg	Pro	Arg	Ala	Ser	Glu	Lys	Glu	Leu	Met	
		405					410					415				
att	gtg	ggc	agg	gtg	ttt	gtg	ctg	ctg	ctg	gtc	ctg	gtc	tcc	atc	ctc	1534
Ile	Val	Gly	Arg	Val	Phe	Val	Leu	Leu	Leu	Val	Leu	Val	Ser	Ile	Leu	
	420					425					430					
tgg	atc	cct	gtg	gtc	cag	gcc	agc	cag	ggc	ggc	cag	ctc	ttc	atc	tat	1582
Trp	Ile	Pro	Val	Val	Gln	Ala	Ser	Gln	Gly	Gly	Gln	Leu	Phe	Ile	Tyr	
435					440				445						450	
atc	cag	tcc	atc	agc	tcc	tac	ctg	cag	ccg	cct	gtg	gcg	gtg	gtc	ttc	1630
Ile	Gln	Ser	Ile	Ser	Ser	Tyr	Leu	Gln	Pro	Pro	Val	Ala	Val	Val	Phe	
				455					460					465		
atc	atg	gga	tgt	ttc	tgg	aag	agg	acc	aat	gaa	aag	ggg	gcc	ttc	tgg	1678
Ile	Met	Gly	Cys	Phe	Trp	Lys	Arg	Thr	Asn	Glu	Lys	Gly	Ala	Phe	Trp	
			470					475					480			

ggc ctg atc tcg ggc ctg ctc ctg ggc ttg gtt agg ctg gtc ctg gac	1726
Gly Leu Ile Ser Gly Leu Leu Leu Gly Leu Val Arg Leu Val Leu Asp	
485 490 495	
ttt att tac gtg cag cct cga tgc gac cag cca gat gag cgc ccg gtc	1774
Phe Ile Tyr Val Gln Pro Arg Cys Asp Gln Pro Asp Glu Arg Pro Val	
500 505 510	
ctg gtg aag agc att cac tac ctc tac ttc tcc atg atc ctg tcc acg	1822
Leu Val Lys Ser Ile His Tyr Leu Tyr Phe Ser Met Ile Leu Ser Thr	
515 520 525 530	
gtc acc ctc atc act gtc tcc acc gtg agc tgg ttc aca gag cca ccc	1870
Val Thr Leu Ile Thr Val Ser Thr Val Ser Trp Phe Thr Glu Pro Pro	
535 540 545	
tcc aag gag atg gtc agc cac ctg acc tgg ttt act cgt cac gac ccc	1918
Ser Lys Glu Met Val Ser His Leu Thr Trp Phe Thr Arg His Asp Pro	
550 555 560	
gtg gtc cag aag gaa caa gca cca cca gca gct ccc ttg tct ctt acc	1966
Val Val Gln Lys Glu Gln Ala Pro Pro Ala Ala Pro Leu Ser Leu Thr	
565 570 575	
ctc tct cag aac ggg atg cca gag gcc agc agc agc agc agc gtc cag	2014
Leu Ser Gln Asn Gly Met Pro Glu Ala Ser Ser Ser Ser Ser Val Gln	
580 585 590	
ttc gag atg gtt caa gaa aac acg tct aaa acc cac agc tgt gac atg	2062
Phe Glu Met Val Gln Glu Asn Thr Ser Lys Thr His Ser Cys Asp Met	
595 600 605 610	
acc cca aag cag tcc aaa gtg gtg aag gcc atc ctg tgg ctc tgt gga	2110
Thr Pro Lys Gln Ser Lys Val Val Lys Ala Ile Leu Trp Leu Cys Gly	
615 620 625	
ata cag gag aag ggc aag gaa gag ctc ccg gcc aga gca gaa gcc atc	2158
Ile Gln Glu Lys Gly Lys Glu Glu Leu Pro Ala Arg Ala Glu Ala Ile	
630 635 640	
ata gtt tcc ctg gaa gaa aac ccc ttg gtg aag acc ctc ctg gac gtc	2206
Ile Val Ser Leu Glu Glu Asn Pro Leu Val Lys Thr Leu Leu Asp Val	
645 650 655	
aac ctc att ttc tgc gtg agc tgc gcc atc ttt atc tgg ggc tat ttt	2254
Asn Leu Ile Phe Cys Val Ser Cys Ala Ile Phe Ile Trp Gly Tyr Phe	
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gct tag tgtgggggtga acccaggggt ccaaactctg tttctcttca gtgctccatt	2310
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675	
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aaaaaaaaaa aaaa	2384

<210> 94
 <211> 675
 <212> PRT
 <213> Homo sapiens

<400> 94

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			20					25					30		
Val	Leu	Tyr	Phe	Leu	Phe	Val	Leu	Ala	Val	Gly	Leu	Trp	Ser	Thr	Val
		35					40					45			
Lys	Thr	Lys	Arg	Asp	Thr	Val	Lys	Gly	Tyr	Phe	Leu	Ala	Gly	Gly	Asp
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Met	Val	Trp	Trp	Pro	Val	Gly	Ala	Ser	Leu	Phe	Ala	Ser	Asn	Val	Gly
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Ser	Gly	His	Phe	Ile	Gly	Leu	Ala	Gly	Ser	Gly	Ala	Ala	Thr	Gly	Ile
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Ser	Val	Ser	Ala	Tyr	Glu	Leu	Asn	Gly	Leu	Phe	Ser	Val	Leu	Met	Leu
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Ala	Trp	Ile	Phe	Leu	Pro	Ile	Tyr	Ile	Ala	Gly	Gln	Val	Thr	Thr	Met
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Pro	Glu	Tyr	Leu	Arg	Lys	Arg	Phe	Gly	Gly	Ile	Arg	Ile	Pro	Ile	Ile
	130					135					140				
Leu	Ala	Val	Leu	Tyr	Leu	Phe	Ile	Tyr	Ile	Phe	Thr	Lys	Ile	Ser	Val
145					150					155					160
Asp	Met	Tyr	Ala	Gly	Ala	Ile	Phe	Ile	Gln	Gln	Ser	Leu	His	Leu	Asp
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Leu	Tyr	Leu	Ala	Ile	Val	Gly	Leu	Leu	Ala	Ile	Thr	Ala	Val	Tyr	Thr
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Val	Ala	Gly	Gly	Leu	Ala	Ala	Val	Ile	Tyr	Thr	Asp	Ala	Leu	Gln	Thr
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Ala	Ser	Asn	Arg	Ser	Glu	Asn	Ser	Ser	Cys	Gly	Leu	Pro	Arg	Glu	Asp
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Ala	Phe	His	Ile	Phe	Arg	Asp	Pro	Leu	Thr	Ser	Asp	Leu	Pro	Trp	Pro
			260					265					270		
Gly	Val	Leu	Phe	Gly	Met	Ser	Ile	Pro	Ser	Leu	Trp	Tyr	Trp	Cys	Thr
		275					280					285			
Asp	Gln	Val	Ile	Val	Gln	Arg	Thr	Leu	Ala	Ala	Lys	Asn	Leu	Ser	His
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Ala	Lys	Gly	Gly	Ala	Leu	Met	Ala	Ala	Tyr	Leu	Lys	Val	Leu	Pro	Leu
305					310					315					320
Phe	Ile	Met	Val	Phe	Pro	Gly	Met	Val	Ser	Arg	Ile	Leu	Phe	Pro	Asp
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Gln	Val	Ala	Cys	Ala	Asp	Pro	Glu	Ile	Cys	Gln	Lys	Ile	Cys	Ser	Asn
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Pro	Ser	Gly	Cys	Ser	Asp	Ile	Ala	Tyr	Pro	Lys	Leu	Val	Leu	Glu	Leu
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Leu	Pro	Thr	Gly	Leu	Arg	Gly	Leu	Met	Met	Ala	Val	Met	Val	Ala	Ala
		370				375					380				
Leu	Met	Ser	Ser	Leu	Thr	Ser	Ile	Phe	Asn	Ser	Ala	Ser	Thr	Ile	Phe
385					390					395					400
Thr	Met	Asp	Leu	Trp	Asn	His	Leu	Arg	Pro	Arg	Ala	Ser	Glu	Lys	Glu
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Leu	Met	Ile	Val	Gly	Arg	Val	Phe	Val	Leu	Leu	Leu	Val	Leu	Val	Ser
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Ile	Leu	Trp	Ile	Pro	Val	Val	Gln	Ala	Ser	Gln	Gly	Gly	Gln	Leu	Phe
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Ile	Tyr	Ile	Gln	Ser	Ile	Ser	Ser	Tyr	Leu	Gln	Pro	Pro	Val	Ala	Val
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Val	Phe	Ile	Met	Gly	Cys	Phe	Trp	Lys	Arg	Thr	Asn	Glu	Lys	Gly	Ala
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Phe	Trp	Gly	Leu	Ile	Ser	Gly	Leu	Leu	Leu	Gly	Leu	Val	Arg	Leu	Val

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Leu	Asp	Phe	Ile	Tyr	Val	Gln	Pro	Arg	Cys	Asp	Gln	Pro	Asp	Glu	Arg		
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Pro	Val	Leu	Val	Lys	Ser	Ile	His	Tyr	Leu	Tyr	Phe	Ser	Met	Ile	Leu		
		515					520					525					
Ser	Thr	Val	Thr	Leu	Ile	Thr	Val	Ser	Thr	Val	Ser	Trp	Phe	Thr	Glu		
	530					535					540						
Pro	Pro	Ser	Lys	Glu	Met	Val	Ser	His	Leu	Thr	Trp	Phe	Thr	Arg	His		
545					550					555					560		
Asp	Pro	Val	Val	Gln	Lys	Glu	Gln	Ala	Pro	Pro	Ala	Ala	Pro	Leu	Ser		
			565						570					575			
Leu	Thr	Leu	Ser	Gln	Asn	Gly	Met	Pro	Glu	Ala	Ser	Ser	Ser	Ser	Ser		
		580						585					590				
Val	Gln	Phe	Glu	Met	Val	Gln	Glu	Asn	Thr	Ser	Lys	Thr	His	Ser	Cys		
	595						600					605					
Asp	Met	Thr	Pro	Lys	Gln	Ser	Lys	Val	Val	Lys	Ala	Ile	Leu	Trp	Leu		
	610					615					620						
Cys	Gly	Ile	Gln	Glu	Lys	Gly	Lys	Glu	Glu	Leu	Pro	Ala	Arg	Ala	Glu		
625					630					635					640		
Ala	Ile	Ile	Val	Ser	Leu	Glu	Glu	Asn	Pro	Leu	Val	Lys	Thr	Leu	Leu		
			645						650					655			
Asp	Val	Asn	Leu	Ile	Phe	Cys	Val	Ser	Cys	Ala	Ile	Phe	Ile	Trp	Gly		
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Tyr	Phe	Ala															
		675															

<210> 95
 <211> 1911
 <212> DNA
 <213> Homo sapiens

<220>
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<222> (1)...(1911)

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Leu	Leu	Met	Thr	Pro	Ser	Asp	Gln	Gly	Asp	Val	Asp	Leu	Asp	Val	Asp	
			20					25					30			
ttt gct gca cac cgg ggg aac tgg aca ggc aag ctg gac ttc ctg ctg																144
Phe	Ala	Ala	His	Arg	Gly	Asn	Trp	Thr	Gly	Lys	Leu	Asp	Phe	Leu	Leu	
			35				40					45				
tcc tgc att ggc tac tgt gta ggc ctg ggg aat gtc tgg cgc ttc ccc																192
Ser	Cys	Ile	Gly	Tyr	Cys	Val	Gly	Leu	Gly	Asn	Val	Trp	Arg	Phe	Pro	
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tat cga gcg tac acc aat gga gga ggc gcc ttc ctc gtg ccc tac ttc																240
Tyr	Arg	Ala	Tyr	Thr	Asn	Gly	Gly	Gly	Ala	Phe	Leu	Val	Pro	Tyr	Phe	
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ctc atg ctg gcc atc tgt ggc atc ccc ctc ttc ttc ctg gag ctc tcc																288
Leu	Met	Leu	Ala	Ile	Cys	Gly	Ile	Pro	Leu	Phe	Phe	Leu	Glu	Leu	Ser	
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100 105 110	
cct ctc ttc aaa ggc gcc ggc gca gcc atg ctg ctc atc gtg ggc ttg Pro Leu Phe Lys Gly Ala Gly Ala Ala Met Leu Leu Ile Val Gly Leu	384
115 120 125	
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130 135 140	
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145 150 155 160	
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165 170 175	
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180 185 190	
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195 200 205	
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210 215 220	
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245 250 255	
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260 265 270	
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275 280 285	
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ggg ctc ctc acc ttt gcc tcc tac aac acg ttt cac cag aac atc tat Gly Leu Leu Thr Phe Ala Ser Tyr Asn Thr Phe His Gln Asn Ile Tyr	960
305 310 315 320	
aga gac acc ttc atc gtc act ctg ggc aac gcc atc acc agc atc ctg Arg Asp Thr Phe Ile Val Thr Leu Gly Asn Ala Ile Thr Ser Ile Leu	1008
325 330 335	

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ggc gtg cct gtg gac caa gta gcc aaa gca ggc cct ggc ctg gcc ttt Gly Val Pro Val Asp Gln Val Ala Lys Ala Gly Pro Gly Leu Ala Phe 355 360 365	1104
gtc gtc tac cca cag gcc atg acc atg ctg cct ctg tca ccc ttc tgg Val Val Tyr Pro Gln Ala Met Thr Met Leu Pro Leu Ser Pro Phe Trp 370 375 380	1152
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gcc atg tac ctg atg ggg ctg atc ctc acc act gat ggg gcc atg tac Ala Met Tyr Leu Met Gly Leu Ile Leu Thr Thr Asp Gly Gly Met Tyr 435 440 445	1344
tgg ctg gtc ctt ctg gat gac tac agc gcc agc ttc ggg ctg atg gtg Trp Leu Val Leu Leu Asp Asp Tyr Ser Ala Ser Phe Gly Leu Met Val 450 455 460	1392
gtg gtt atc acc aca tgc ctt gcc gtg aca cgg gtg tat ggc att cag Val Val Ile Thr Thr Cys Leu Ala Val Thr Arg Val Tyr Gly Ile Gln 465 470 475 480	1440
agg ttc tgc cga gac atc cac atg atg ctg ggc ttc aag ccg gcc ctc Arg Phe Cys Arg Asp Ile His Met Met Leu Gly Phe Lys Pro Gly Leu 485 490 495	1488
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gaa gag ggc tca ctc tgg gag cgg ctc caa cag gcc agc cgg ccg gcc Glu Glu Gly Ser Leu Trp Glu Arg Leu Gln Gln Ala Ser Arg Pro Ala 565 570 575	1728
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gcc	acg	ctg	gct	ggg	agc	cag	tca	cca	aag	cca	ctg	atg	gtg	cac	atg	1824	
Ala	Thr	Leu	Ala	Gly	Ser	Gln	Ser	Pro	Lys	Pro	Leu	Met	Val	His	Met		
		595					600					605					
cgc	aag	tac	ggg	ggc	atc	acc	agc	ttc	gag	aac	acg	gcc	atc	gag	gtg	1872	
Arg	Lys	Tyr	Gly	Gly	Ile	Thr	Ser	Phe	Glu	Asn	Thr	Ala	Ile	Glu	Val		
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gac	cgt	gag	att	gca	gag	gag	gag	gag	tcg	atg	atg	tga				1911	
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<400> 96

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Phe	Ala	Ala	His	Arg	Gly	Asn	Trp	Thr	Gly	Lys	Leu	Asp	Phe	Leu	Leu		
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Ser	Cys	Ile	Gly	Tyr	Cys	Val	Gly	Leu	Gly	Asn	Val	Trp	Arg	Phe	Pro		
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Tyr	Arg	Ala	Tyr	Thr	Asn	Gly	Gly	Gly	Ala	Phe	Leu	Val	Pro	Tyr	Phe		
	65				70					75				80			
Leu	Met	Leu	Ala	Ile	Cys	Gly	Ile	Pro	Leu	Phe	Phe	Leu	Glu	Leu	Ser		
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Leu	Gly	Gln	Phe	Ser	Ser	Leu	Gly	Pro	Leu	Ala	Val	Trp	Lys	Ile	Ser		
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Pro	Leu	Phe	Lys	Gly	Ala	Gly	Ala	Ala	Met	Leu	Leu	Ile	Val	Gly	Leu		
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Val	Ala	Ile	Tyr	Tyr	Asn	Met	Ile	Ile	Ala	Tyr	Val	Leu	Phe	Tyr	Leu		
	130					135						140					
Phe	Ala	Ser	Leu	Thr	Ser	Asp	Leu	Pro	Trp	Glu	His	Cys	Gly	Asn	Trp		
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Trp	Asn	Thr	Glu	Leu	Cys	Leu	Glu	His	Arg	Val	Ser	Lys	Asp	Gly	Asn		
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Gly	Ala	Leu	Pro	Leu	Asn	Leu	Thr	Cys	Thr	Val	Ser	Pro	Ser	Glu	Glu		
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Tyr	Trp	Ser	Arg	Tyr	Val	Leu	His	Ile	Gln	Gly	Ser	Gln	Gly	Ile	Gly		
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Ser	Pro	Gly	Glu	Ile	Arg	Trp	Asn	Leu	Cys	Leu	Cys	Leu	Leu	Leu	Ala		
	210					215					220						
Trp	Val	Ile	Val	Phe	Leu	Cys	Ile	Leu	Lys	Gly	Val	Lys	Ser	Ser	Gly		
	225				230					235					240		
Lys	Val	Val	Tyr	Phe	Thr	Ala	Thr	Phe	Pro	Tyr	Leu	Ile	Leu	Leu	Met		
			245						250					255			
Leu	Leu	Val	Arg	Gly	Val	Thr	Leu	Pro	Gly	Ala	Trp	Lys	Gly	Ile	Gln		
		260						265					270				
Phe	Tyr	Leu	Thr	Pro	Gln	Phe	His	Leu	Leu	Ser	Ser	Lys	Val	Trp			
		275					280					285					
Ile	Glu	Ala	Ala	Leu	Gln	Ile	Phe	Tyr	Ser	Leu	Gly	Val	Gly	Phe	Gly		
	290				295						300						
Gly	Leu	Leu	Thr	Phe	Ala	Ser	Tyr	Asn	Thr	Phe	His	Gln	Asn	Ile	Tyr		

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Arg	Asp	Thr	Phe	Ile	Val	Thr	Leu	Gly	Asn	Ala	Ile	Thr	Ser	Ile
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Ala	Gly	Phe	Ala	Ile	Phe	Ser	Val	Leu	Gly	Tyr	Met	Ser	Gln	Glu
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Gly	Val	Pro	Val	Asp	Gln	Val	Ala	Lys	Ala	Gly	Pro	Gly	Leu	Ala
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Val	Val	Tyr	Pro	Gln	Ala	Met	Thr	Met	Leu	Pro	Leu	Ser	Pro	Phe
	370					375					380			Trp
Ser	Phe	Leu	Phe	Phe	Phe	Met	Leu	Leu	Thr	Leu	Gly	Leu	Asp	Ser
385					390					395				400
Phe	Ala	Phe	Leu	Glu	Thr	Ile	Val	Thr	Ala	Val	Thr	Asp	Glu	Phe
				405					410					415
Tyr	Tyr	Leu	Arg	Pro	Lys	Lys	Ala	Val	Phe	Ser	Gly	Leu	Ile	Cys
			420					425					430	Val
Ala	Met	Tyr	Leu	Met	Gly	Leu	Ile	Leu	Thr	Thr	Asp	Gly	Gly	Met
	435						440					445		Tyr
Trp	Leu	Val	Leu	Leu	Asp	Asp	Tyr	Ser	Ala	Ser	Phe	Gly	Leu	Met
450					455						460			Val
Val	Val	Ile	Thr	Thr	Cys	Leu	Ala	Val	Thr	Arg	Val	Tyr	Gly	Ile
465					470					475				480
Arg	Phe	Cys	Arg	Asp	Ile	His	Met	Met	Leu	Gly	Phe	Lys	Pro	Gly
			485						490					495
Tyr	Phe	Arg	Ala	Cys	Trp	Leu	Phe	Leu	Ser	Pro	Ala	Thr	Leu	Leu
			500					505					510	Ala
Leu	Leu	Val	Tyr	Ser	Ile	Val	Lys	Tyr	Gln	Pro	Ser	Glu	Tyr	Gly
		515					520					525		Ser
Tyr	Arg	Phe	Pro	Pro	Trp	Ala	Glu	Leu	Leu	Gly	Ile	Leu	Met	Gly
	530					535					540			Leu
Leu	Ser	Cys	Leu	Met	Ile	Pro	Ala	Gly	Met	Leu	Val	Ala	Val	Leu
545					550					555				560
Glu	Glu	Gly	Ser	Leu	Trp	Glu	Arg	Leu	Gln	Ala	Ser	Arg	Pro	Ala
				565					570					575
Met	Asp	Trp	Gly	Pro	Ser	Leu	Glu	Glu	Asn	Arg	Thr	Gly	Met	Tyr
			580					585					590	Val
Ala	Thr	Leu	Ala	Gly	Ser	Gln	Ser	Pro	Lys	Pro	Leu	Met	Val	His
	595						600					605		Met
Arg	Lys	Tyr	Gly	Gly	Ile	Thr	Ser	Phe	Glu	Asn	Thr	Ala	Ile	Glu
	610					615					620			Val
Asp	Arg	Glu	Ile	Ala	Glu	Glu	Glu	Glu	Ser	Met	Met			
625					630					635				

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 <212> DNA
 <213> Homo sapiens

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 cattcattga atctgctgat ttcatgacgt ctctctgcgt ggtccaccac ttttctccta 180
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gaccatctga ttccagtttt tttcttttcc ttttcttttt tgcatttcct tccctcgcca 540
tccgtcgtgt agtgaattgt tcagtcttgc tccgtttcaa gagaggagat catgattgag 600
tgaagccacc ccgtccgcag ccaggaaaag cacaaagaag aaactgcaac a atg gcc 657
Met Ala
1

aag ctg aca gaa tcc atg act aac gtc ctg gag ggc gac tcc atg gat 705
Lys Leu Thr Glu Ser Met Thr Asn Val Leu Glu Gly Asp Ser Met Asp
5 10 15

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Gln Asp Val Glu Ser Pro Val Ala Ile His Gln Pro Lys Leu Pro Lys
20 25 30

cag gcc agg gat gac ctg cca aga cac atc agc cga gat cgg acc aaa 801
Gln Ala Arg Asp Asp Leu Pro Arg His Ile Ser Arg Asp Arg Thr Lys
35 40 45 50

agg aaa atc cag agg tac gtg agg aaa gac gga aag tgc aat gtt cat 849
Arg Lys Ile Gln Arg Tyr Val Arg Lys Asp Gly Lys Cys Asn Val His
55 60 65

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His Gly Asn Val Arg Glu Thr Tyr Arg Tyr Leu Thr Asp Ile Phe Thr
70 75 80

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Thr Leu Val Asp Leu Lys Trp Arg Phe Asn Leu Leu Ile Phe Val Met
85 90 95

gtt tac aca gtg acc tgg ctc ttt ttt gga atg atc tgg tgg ttg atc 993
Val Tyr Thr Val Thr Trp Leu Phe Phe Gly Met Ile Trp Trp Leu Ile
100 105 110

gca tac ata cgg gga gac atg gac cac ata gag gac ccc tcc tgg act 1041
Ala Tyr Ile Arg Gly Asp Met Asp His Ile Glu Asp Pro Ser Trp Thr
115 120 125 130

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Pro Cys Val Thr Asn Leu Asn Gly Phe Val Ser Ala Phe Leu Phe Ser
135 140 145

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Ile Glu Thr Glu Thr Thr Ile Gly Tyr Gly Tyr Arg Val Ile Thr Asp
150 155 160

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Lys Cys Pro Glu Gly Ile Ile Leu Leu Leu Ile Gln Ser Val Leu Gly
165 170 175

tcc att gtc aat gca ttc atg gtg gga tgc atg ttt gta aaa atc tct 1233
Ser Ile Val Asn Ala Phe Met Val Gly Cys Met Phe Val Lys Ile Ser
180 185 190

caa ccc aag aag agg gca gag acc ctg gtc ttt tcc acc cat gca gtg 1281
Gln Pro Lys Lys Arg Ala Glu Thr Leu Val Phe Ser Thr His Ala Val
195 200 205 210

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Ile Ser Met Arg Asp Gly Lys Leu Cys Leu Met Phe Arg Val Gly Asp

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	230	235	240	
aaa tcc aaa cag acc tcg gag ggg gag ttc atc ccg ttg aac cag acg				1425
Lys Ser Lys Gln Thr Ser Glu Gly Glu Phe Ile Pro Leu Asn Gln Thr				
	245	250	255	
gat atc aac gta ggg tat tac acg ggg gat gac cgt ctg ttt ctg gtg				1473
Asp Ile Asn Val Gly Tyr Tyr Thr Gly Asp Asp Arg Leu Phe Leu Val				
	260	265	270	
tca ccg ctg atc att agc cat gaa att aac caa cag agt cct ttc tgg				1521
Ser Pro Leu Ile Ile Ser His Glu Ile Asn Gln Gln Ser Pro Phe Trp				
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Glu Ile Ser Lys Ala Gln Leu Pro Lys Glu Glu Leu Glu Ile Val Val				
	295	300	305	
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Ile Leu Glu Gly Met Val Glu Ala Thr Gly Met Thr Cys Gln Ala Arg				
	310	315	320	
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Ser Ser Tyr Ile Thr Ser Glu Ile Leu Trp Gly Tyr Arg Phe Thr Pro				
	325	330	335	
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Val Leu Thr Leu Glu Asp Gly Phe Tyr Glu Val Asp Tyr Asn Ser Phe				
	340	345	350	
cat gag acc tat gag acc agc acc cca tcc ctt agt gcc aaa gag ctg				1761
His Glu Thr Tyr Glu Thr Ser Thr Pro Ser Leu Ser Ala Lys Glu Leu				
	355	360	365	370
gcc gag tta gcc agc agg gca gag ctg ccc ctg agt tgg tct gta tcc				1809
Ala Glu Leu Ala Ser Arg Ala Glu Leu Pro Leu Ser Trp Ser Val Ser				
	375	380	385	
agc aaa ctc aac caa cat gca gaa ctg gag act gaa gag gaa gaa aag				1857
Ser Lys Leu Asn Gln His Ala Glu Leu Glu Thr Glu Glu Glu Glu Lys				
	390	395	400	
aac ctc gaa gag caa aca gaa aga aat ggt gat gtg gca aac ctg gag				1905
Asn Leu Glu Glu Gln Thr Glu Arg Asn Gly Asp Val Ala Asn Leu Glu				
	405	410	415	
aat gaa tcc aaa gtt tag tgcctagct gggcaaacc ttctcttctc				1953
Asn Glu Ser Lys Val *				
	420			

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<211> 423

<212> PRT

<213> Homo sapiens

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Pro Lys Gln Ala Arg Asp Asp Leu Pro Arg His Ile Ser Arg Asp Arg
35     40     45
Thr Lys Arg Lys Ile Gln Arg Tyr Val Arg Lys Asp Gly Lys Cys Asn
50     55     60
Val His His Gly Asn Val Arg Glu Thr Tyr Arg Tyr Leu Thr Asp Ile
65     70     75     80
Phe Thr Thr Leu Val Asp Leu Lys Trp Arg Phe Asn Leu Leu Ile Phe
85     90     95
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Trp Thr Pro Cys Val Thr Asn Leu Asn Gly Phe Val Ser Ala Phe Leu
130    135    140
Phe Ser Ile Glu Thr Glu Thr Thr Ile Gly Tyr Gly Tyr Arg Val Ile
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Thr Asp Lys Cys Pro Glu Gly Ile Ile Leu Leu Leu Ile Gln Ser Val
165    170    175
Leu Gly Ser Ile Val Asn Ala Phe Met Val Gly Cys Met Phe Val Lys
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Ile Ser Gln Pro Lys Lys Arg Ala Glu Thr Leu Val Phe Ser Thr His
195    200    205
Ala Val Ile Ser Met Arg Asp Gly Lys Leu Cys Leu Met Phe Arg Val
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Gly Asp Leu Arg Asn Ser His Ile Val Glu Ala Ser Ile Arg Ala Lys
225    230    235    240
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245    250    255
Gln Thr Asp Ile Asn Val Gly Tyr Tyr Thr Gly Asp Asp Arg Leu Phe
260    265    270
Leu Val Ser Pro Leu Ile Ile Ser His Glu Ile Asn Gln Gln Ser Pro
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Phe Trp Glu Ile Ser Lys Ala Gln Leu Pro Lys Glu Glu Leu Glu Ile
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305    310    315    320
Ala Arg Ser Ser Tyr Ile Thr Ser Glu Ile Leu Trp Gly Tyr Arg Phe
325    330    335
Thr Pro Val Leu Thr Leu Glu Asp Gly Phe Tyr Glu Val Asp Tyr Asn
340    345    350
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 Ala Ala Val Glu Glu Thr Leu Met Asp Ser Thr Thr Ala Thr Ala Glu
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 Leu Gly Trp Met Val His Pro Pro Ser Gly Trp Glu Glu Val Ser Gly
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 Tyr Asp Glu Asn Met Asn Thr Ile Arg Thr Tyr Gln Val Cys Asn Val
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 Phe Glu Ser Ser Gln Asn Asn Trp Leu Arg Thr Lys Phe Ile Arg Arg
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 Arg Gly Ala His Arg Ile His Val Glu Met Lys Phe Ser Val Arg Asp
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 Cys Ser Ser Ile Pro Ser Val Pro Gly Ser Cys Lys Glu Thr Phe Asn
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 Leu Tyr Tyr Tyr Glu Ala Asp Phe Asp Ser Ala Thr Lys Thr Phe Pro
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 Asn Trp Met Glu Asn Pro Trp Val Lys Val Asp Thr Ile Ala Ala Asp
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 Glu Ser Phe Ser Gln Val Asp Leu Gly Gly Arg Val Met Lys Ile Asn
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Phe Tyr Arg Lys Cys Pro Arg Ile Ile Gln Asn Gly Ala Ile Phe Gln	
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Gln	Asp	Val	Ile	Asn	Ala	Ile	Glu	Gln	Asp	Tyr	Arg	Leu	Pro	Pro	Pro		
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atc ctg acc agc act tca ccc acg cta ccg aga ccc cac tcc ccg ctg	198
Ile Leu Thr Ser Thr Ser Pro Thr Leu Pro Arg Pro His Ser Pro Leu	
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Ser Lys His Phe Gly Ser Thr Glu Ser Ile Thr Asp Glu Asp Gly Gly	
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Tyr	Lys	Glu	Arg	Phe	Pro	Lys	Ala	Thr	Ala	Gln	Met	Glu	Glu	Lys	Leu	
			185					190					195			
cgc	gac	ttc	acc	cgc	gcc	tac	gaa	ccc	gac	agc	gtt	ctg	cct	ctg	gcc	678
Arg	Asp	Phe	Thr	Arg	Ala	Tyr	Glu	Pro	Asp	Ser	Val	Leu	Pro	Leu	Ala	
		200					205					210				
gat	ggc	gtg	ctc	agc	ttc	atc	cac	cac	cag	atc	atc	gag	ctg	gcc	cgg	726
Asp	Gly	Val	Leu	Ser	Phe	Ile	His	His	Gln	Ile	Ile	Glu	Leu	Ala	Arg	
	215					220					225					
gac	tgc	ctg	acc	aag	tcc	cgt	gac	ggc	ctc	atc	acc	acg	gtc	tac	ttc	774
Asp	Cys	Leu	Thr	Lys	Ser	Arg	Asp	Gly	Leu	Ile	Thr	Thr	Val	Tyr	Phe	
230					235				240						245	
tat	gaa	ttg	cag	gag	aac	ctg	gag	aag	ctc	ctt	caa	gac	gcc	tat	gaa	822
Tyr	Glu	Leu	Gln	Glu	Asn	Leu	Glu	Lys	Leu	Leu	Gln	Asp	Ala	Tyr	Glu	
				250				255						260		
cgc	tct	gag	agc	ttg	gag	gtg	gcc	ttc	gtt	act	cag	ctg	gtg	aag	aag	870
Arg	Ser	Glu	Ser	Leu	Glu	Val	Ala	Phe	Val	Thr	Gln	Leu	Val	Lys	Lys	
			265				270						275			
ttg	ctt	att	atc	atc	tca	cgc	cct	gcg	agg	ctg	ctg	gag	tgc	ctg	gaa	918
Leu	Leu	Ile	Ile	Ile	Ser	Arg	Pro	Ala	Arg	Leu	Leu	Glu	Cys	Leu	Glu	
		280					285					290				
ttc	aac	ccc	gag	gag	ttc	tac	cac	ctg	ctg	gag	gcg	gcc	gaa	gga	cac	966
Phe	Asn	Pro	Glu	Glu	Phe	Tyr	His	Leu	Leu	Glu	Ala	Ala	Glu	Gly	His	
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gcc	aag	gag	ggc	cac	ctt	gtg	aag	acg	gac	atc	ccc	cgc	tac	atc	atc	1014
Ala	Lys	Glu	Gly	His	Leu	Val	Lys	Thr	Asp	Ile	Pro	Arg	Tyr	Ile	Ile	
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cgc	cag	ctg	ggc	ctc	acc	cgt	gac	ccc	ttt	cca	gac	gtg	gtg	cat	ctg	1062
Arg	Gln	Leu	Gly	Leu	Thr	Arg	Asp	Pro	Phe	Pro	Asp	Val	Val	His	Leu	
				330				335						340		
gag	gaa	cag	gac	agt	ggt	ggt	tcc	aac	acc	cct	gag	caa	gac	gat	ctc	1110
Glu	Glu	Gln	Asp	Ser	Gly	Gly	Ser	Asn	Thr	Pro	Glu	Gln	Asp	Asp	Leu	
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tct	gag	ggc	cgc	agc	agc	aag	gcc	aag	aaa	ccg	ccg	ggg	gag	aat	gac	1158
Ser	Glu	Gly	Arg	Ser	Ser	Lys	Ala	Lys	Lys	Pro	Pro	Gly	Glu	Asn	Asp	
		360					365					370				
ttc	gat	acc	atc	aag	ctc	ata	agc	aac	ggt	gcc	tac	ggc	gct	gtc	tac	1206
Phe	Asp	Thr	Ile	Lys	Leu	Ile	Ser	Asn	Gly	Ala	Tyr	Gly	Ala	Val	Tyr	
	375					380					385					
ctg	gtg	cgg	cac	cgc	gac	acg	cgg	cag	cgc	ttt	gcc	atg	aaa	aag	atc	1254
Leu	Val	Arg	His	Arg	Asp	Thr	Arg	Gln	Arg	Phe	Ala	Met	Lys	Lys	Ile	

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aac aag cag aac ttg atc ctc cgc aac cag atc cag cag gcc ttt gtg				1302
Asn Lys Gln Asn Leu Ile Leu Arg Asn Gln Ile Gln Gln Ala Phe Val				
410		415	420	
gag cgc gat atc ctc acc ttc gcc gag aac ccg ttt gtg gtc ggc atg				1350
Glu Arg Asp Ile Leu Thr Phe Ala Glu Asn Pro Phe Val Val Gly Met				
425		430	435	
ttc tgc tcc ttt gag act cgg cgc cac ctc tgc atg gtc atg gaa tat				1398
Phe Cys Ser Phe Glu Thr Arg Arg His Leu Cys Met Val Met Glu Tyr				
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gtg gaa ggc ggc gac tgt gcc acc ctg ctg aag aat att gga gcg ctg				1446
Val Glu Gly Gly Asp Cys Ala Thr Leu Leu Lys Asn Ile Gly Ala Leu				
455		460	465	
ccc gta gag atg gcc cgc atg tac ttt gct gag acg gtg cta gcc ctg				1494
Pro Val Glu Met Ala Arg Met Tyr Phe Ala Glu Thr Val Leu Ala Leu				
470		475	480	485
gag tat ttg cac aac tat ggc atc gtg cac cgc gac ctc aag cct gac				1542
Glu Tyr Leu His Asn Tyr Gly Ile Val His Arg Asp Leu Lys Pro Asp				
490		495	500	
aac ctc ctt atc acc tcc atg ggt cac atc aag ctc aca gat ttc ggc				1590
Asn Leu Leu Ile Thr Ser Met Gly His Ile Lys Leu Thr Asp Phe Gly				
505		510	515	
ctc tcc aag atg ggg ctc atg agc ctc acc acc aac tta tat gaa ggc				1638
Leu Ser Lys Met Gly Leu Met Ser Leu Thr Thr Asn Leu Tyr Glu Gly				
520		525	530	
cac atc gag aag gac gcc cga gag ttc ctg gac aaa cag gtg tgt ggg				1686
His Ile Glu Lys Asp Ala Arg Glu Phe Leu Asp Lys Gln Val Cys Gly				
535		540	545	
acc cca gag tac atc gcg ccc gag gtc atc ctg cgt caa ggc tac ggc				1734
Thr Pro Glu Tyr Ile Ala Pro Glu Val Ile Leu Arg Gln Gly Tyr Gly				
550		555	560	565
aag cca gtg gac tgg tgg gct atg ggg atc atc ctc tac gag ttc ctg				1782
Lys Pro Val Asp Trp Trp Ala Met Gly Ile Ile Leu Tyr Glu Phe Leu				
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gtg ggc tgt gtg ccc ttc ttc gga gac aca cca gag gag cta ttt gga				1830
Val Gly Cys Val Pro Phe Phe Gly Asp Thr Pro Glu Glu Leu Phe Gly				
585		590	595	
cag gtc atc agt gat gac atc ctg tgg ccc gag ggg gat gag gcc cta				1878
Gln Val Ile Ser Asp Asp Ile Leu Trp Pro Glu Gly Asp Glu Ala Leu				
600		605	610	
cct acg gag gcc caa ctc ctc ata tcc agc ctc ctg cag acc aac cct				1926
Pro Thr Glu Ala Gln Leu Leu Ile Ser Ser Leu Leu Gln Thr Asn Pro				
615		620	625	
ctg gtc agg ctt ggg gca ggc ggc gct ttt gag gtg aag cag cac agt				1974
Leu Val Arg Leu Gly Ala Gly Gly Ala Phe Glu Val Lys Gln His Ser				
630		635	640	645

ttc ttt cga gac ctg gac tgg aca ggg ctg ctg agg cag aag gcc gag	2022
Phe Phe Arg Asp Leu Asp Trp Thr Gly Leu Leu Arg Gln Lys Ala Glu	
650 655 660	
ttc atc ccc cac cta gag tcg gaa gat gac act agc tac ttt gac acc	2070
Phe Ile Pro His Leu Glu Ser Glu Asp Asp Thr Ser Tyr Phe Asp Thr	
665 670 675	
cgc tca gac agg tat cac cac gtg aac tcc tat gac gag gat gac acg	2118
Arg Ser Asp Arg Tyr His His Val Asn Ser Tyr Asp Glu Asp Asp Thr	
680 685 690	
acg gag gag gag ccc gtg gaa atc cgc cag ttc tct tcc tgc tct ccg	2166
Thr Glu Glu Glu Pro Val Glu Ile Arg Gln Phe Ser Ser Cys Ser Pro	
695 700 705	
cgc ttc agc aag gtg tat agc agc atg gag cag ctg tcg cag cac gag	2214
Arg Phe Ser Lys Val Tyr Ser Ser Met Glu Gln Leu Ser Gln His Glu	
710 715 720 725	
ccc aag acc cca gta gca gct gca ggg agc agc aag cgg gag ccg agc	2262
Pro Lys Thr Pro Val Ala Ala Ala Gly Ser Ser Lys Arg Glu Pro Ser	
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acc aag ggc ccc gag gag aag gtg gcc ggc aag cgg gag ggg ctg ggc	2310
Thr Lys Gly Pro Glu Glu Lys Val Ala Gly Lys Arg Glu Gly Leu Gly	
745 750 755	
ggc ctg acc ctg cgt gag aag acc tgg aga ggg ggc tct ccg gag atc	2358
Gly Leu Thr Leu Arg Glu Lys Thr Trp Arg Gly Gly Ser Pro Glu Ile	
760 765 770	
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Lys Arg Phe Ser Ala Ser Glu Ala Ser Phe Leu Glu Gly Glu Ala Ser	
775 780 785	
ccc cct ttg ggc gcc cgc cgc cgt ttc tcg gcg ctg ctg gag ccc agc	2454
Pro Pro Leu Gly Ala Arg Arg Arg Phe Ser Ala Leu Leu Glu Pro Ser	
790 795 800 805	
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Arg Phe Ser Ala Pro Gln Glu Asp Glu Asp Glu Ala Arg Leu Arg Arg	
810 815 820	
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Pro Pro Arg Pro Ser Ser Asp Pro Ala Gly Ser Leu Asp Ala Arg Ala	
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Pro Lys Glu Glu Thr Gln Gly Glu Gly Thr Ser Ser Ala Gly Asp Ser	
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gag gcc act gac cgt cca cgc cca ggt gac ctc tgc cca ccc tcg aag	2646
Glu Ala Thr Asp Arg Pro Arg Pro Gly Asp Leu Cys Pro Pro Ser Lys	
855 860 865	
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Asp Gly Asp Ala Ser Gly Pro Arg Ala Thr Asn Asp Leu Val Leu Arg	
870 875 880 885	

cg	gc	cg	ca	ca	ca	at	tc	gg	ga	gt	gc	gt	ga	ag	ag	2742
Arg	Ala	Arg	His	Gln	Gln	Met	Ser	Gly	Asp	Val	Ala	Val	Glu	Lys	Arg	
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cct	tct	cga	act	ggg	ggc	aaa	gtc	atc	aaa	tca	gcc	tca	gcc	act	gcc	2790
Pro	Ser	Arg	Thr	Gly	Gly	Lys	Val	Ile	Lys	Ser	Ala	Ser	Ala	Thr	Ala	
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tta	tct	gtc	atg	att	cct	gca	gtg	gac	cca	cat	gga	agt	tca	ccc	ctt	2838
Leu	Ser	Val	Met	Ile	Pro	Ala	Val	Asp	Pro	His	Gly	Ser	Ser	Pro	Leu	
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gct	agt	ccc	atg	tct	cca	cga	tct	ctg	tcc	tcc	aac	cca	tcc	tca	cgg	2886
Ala	Ser	Pro	Met	Ser	Pro	Arg	Ser	Leu	Ser	Ser	Asn	Pro	Ser	Ser	Arg	
	935					940					945					
gac	tcc	tca	ccc	agc	cgg	gac	tac	tca	cca	gct	gtc	agt	ggg	ctc	cgc	2934
Asp	Ser	Ser	Pro	Ser	Arg	Asp	Tyr	Ser	Pro	Ala	Val	Ser	Gly	Leu	Arg	
950					955				960						965	
tcc	ccc	atc	acc	atc	cag	cgc	tcg	ggc	aag	aag	tat	ggc	ttc	aca	ctg	2982
Ser	Pro	Ile	Thr	Ile	Gln	Arg	Ser	Gly	Lys	Lys	Tyr	Gly	Phe	Thr	Leu	
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cgt	gcc	atc	cgt	gtc	tac	atg	ggc	gac	acg	gat	gtc	tat	agt	gtc	cac	3030
Arg	Ala	Ile	Arg	Val	Tyr	Met	Gly	Asp	Thr	Asp	Val	Tyr	Ser	Val	His	
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cac	att	gtc	tgg	cat	gtg	gag	gaa	gga	ggc	cca	gcc	cag	gag	gca	gga	3078
His	Ile	Val	Trp	His	Val	Glu	Glu	Gly	Gly	Pro	Ala	Gln	Glu	Ala	Gly	
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Leu	Cys	Ala	Gly	Asp	Leu	Ile	Thr	His	Val	Asn	Gly	Glu	Pro	Val	His	
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Lys	Val	Ala	Val	Thr	Thr	Pro	Phe	Glu	Asn	Thr	Ser	Ile	Arg	Ile		
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ggc	ccc	gca	agg	cgc	agc	agc	tac	aag	gct	aaa	atg	gct	cgg	agg	aac	3270
Gly	Pro	Ala	Arg	Arg	Ser	Ser	Tyr	Lys	Ala	Lys	Met	Ala	Arg	Arg	Asn	
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aag	cga	ccc	tcc	gcc	aag	gag	ggc	cag	gag	agc	aag	aag	cgc	agc	tcc	3318
Lys	Arg	Pro	Ser	Ala	Lys	Glu	Gly	Gln	Glu	Ser	Lys	Lys	Arg	Ser	Ser	
		1080					1085					1090				
ctc	ttc	cgg	aag	atc	acg	aag	cag	tcg	aac	ctg	ctg	cat	act	agc	cgc	3366
Leu	Phe	Arg	Lys	Ile	Thr	Lys	Gln	Ser	Asn	Leu	Leu	His	Thr	Ser	Arg	
	1095					1100					1105					
tcg	ctg	tcg	tcg	ctg	aac	cgc	tcg	ctg	tca	tcc	agc	gat	agt	ctc	ccg	3414
Ser	Leu	Ser	Ser	Leu	Asn	Arg	Ser	Leu	Ser	Ser	Ser	Asp	Ser	Leu	Pro	
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Gly Ser Pro Thr His Gly Leu Pro Ala Arg Ser Pro Thr His Ser Tyr	
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Arg Ser Thr Pro Asp Ser Ala Tyr Leu Gly Ala Ser Ser Gln Ser Ser	
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Ser Pro Ala Ser Ser Thr Pro Asn Ser Pro Ala Ser Ser Ala Ser His	
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His Ile Arg Pro Ser Thr Leu His Gly Leu Ser Pro Lys Leu His Arg	
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Gln Tyr Arg Ser Ala Arg Cys Lys Ser Ala Gly Asn Ile Pro Leu Ser	
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Pro Leu Ala His Thr Pro Ser Pro Thr Gln Ala Ser Pro Pro Pro Leu	
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Pro Gly His Thr Val Gly Ser Ser His Thr Thr Gln Ser Phe Pro Ala	
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Lys Leu His Ser Ser Pro Pro Val Val Arg Pro Arg Pro Lys Ser Ala	
1240 1245 1250	
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Glu Pro Pro Arg Ser Pro Leu Leu Lys Arg Val Gln Ser Ala Glu Lys	
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Leu Gly Ala Ser Leu Ser Ala Asp Lys Lys Gly Ala Leu Arg Lys His	
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Ser Leu Glu Val Gly His Pro Asp Phe Arg Lys Asp Phe His Gly Glu	
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Gln Glu Ser Pro Leu Ser Leu Gly Ala Asp Pro Leu Leu Pro Glu Gly	
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Ala Ser Arg Pro Pro Val Ser Ser Lys Glu Lys Glu Ser Pro Gly Gly	
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Asp Gly Thr Gly Gly Met Ala Arg Ala Val Ala Lys Ala Ala Leu Ser
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Pro Val Gln Glu His Glu Thr Gly Arg Arg Ser Ser Gly Glu Ala
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Gly Thr Pro Leu Val Pro Ile Val Val Glu Pro Ala Arg Pro Gly Ala
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Pro Arg Ser Lys Pro Ala Ser Pro Lys Leu Ser Pro Glu Pro Gln Thr
1495 1500 1505

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Pro Ser Leu Ala Pro Ala Lys Cys Ser Ala Pro Ser Ser Ala Val Thr
1510 1515 1520 1525

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Thr Lys Lys Gly Val Ser Ser Pro Ala Pro Pro Gly Pro *
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Phe	Pro	Gly	Gly	Ser	Met	Phe	Arg	Arg	Thr	Lys	Ser	Cys	Arg	Thr	Ser
		20						25					30		
Asn	Arg	Lys	Ser	Leu	Ile	Leu	Thr	Ser	Thr	Ser	Pro	Thr	Leu	Pro	Arg
		35					40					45			
Pro	His	Ser	Pro	Leu	Pro	Gly	His	Leu	Gly	Ser	Ser	Pro	Leu	Asp	Ser
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Pro	Arg	Asn	Phe	Ser	Pro	Asn	Thr	Pro	Ala	His	Phe	Ser	Phe	Ala	Ser
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Ser	Arg	Arg	Ala	Asp	Gly	Arg	Arg	Trp	Ser	Leu	Ala	Ser	Leu	Pro	Ser
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Ser	Gly	Tyr	Gly	Thr	Asn	Thr	Pro	Ser	Ser	Thr	Val	Ser	Ser	Ser	Cys
		100						105						110	
Ser	Ser	Gln	Glu	Arg	Leu	His	Gln	Leu	Pro	Tyr	Gln	Pro	Thr	Val	Asp
		115					120					125			
Glu	Leu	His	Phe	Leu	Ser	Lys	His	Phe	Gly	Ser	Thr	Glu	Ser	Ile	Thr
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Asp	Glu	Asp	Gly	Gly	Arg	Arg	Ser	Pro	Ala	Val	Arg	Pro	Arg	Ser	Arg
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Ser	Leu	Ser	Pro	Gly	Arg	Ser	Pro	Ser	Ser	Tyr	Asp	Asn	Glu	Ile	Val
				165					170					175	
Met	Met	Asn	His	Val	Tyr	Lys	Glu	Arg	Phe	Pro	Lys	Ala	Thr	Ala	Gln
		180						185					190		
Met	Glu	Glu	Lys	Leu	Arg	Asp	Phe	Thr	Arg	Ala	Tyr	Glu	Pro	Asp	Ser
	195						200					205			
Val	Leu	Pro	Leu	Ala	Asp	Gly	Val	Leu	Ser	Phe	Ile	His	His	Gln	Ile
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Ile	Glu	Leu	Ala	Arg	Asp	Cys	Leu	Thr	Lys	Ser	Arg	Asp	Gly	Leu	Ile
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Thr	Thr	Val	Tyr	Phe	Tyr	Glu	Leu	Gln	Glu	Asn	Leu	Glu	Lys	Leu	Leu
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Gln	Asp	Ala	Tyr	Glu	Arg	Ser	Glu	Ser	Leu	Glu	Val	Ala	Phe	Val	Thr
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	290					295					300				
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Pro	Arg	Tyr	Ile	Ile	Arg	Gln	Leu	Gly	Leu	Thr	Arg	Asp	Pro	Phe	Pro
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Asp	Val	Val	His	Leu	Glu	Glu	Gln	Asp	Ser	Gly	Gly	Ser	Asn	Thr	Pro
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Glu	Gln	Asp	Asp	Leu	Ser	Glu	Gly	Arg	Ser	Ser	Lys	Ala	Lys	Lys	Pro
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Pro	Gly	Glu	Asn	Asp	Phe	Asp	Thr	Ile	Lys	Leu	Ile	Ser	Asn	Gly	Ala
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Tyr	Gly	Ala	Val	Tyr	Leu	Val	Arg	His	Arg	Asp	Thr	Arg	Gln	Arg	Phe
385					390					395					400
Ala	Met	Lys	Lys	Ile	Asn	Lys	Gln	Asn	Leu	Ile	Leu	Arg	Asn	Gln	Ile
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Thr	Val	Leu	Ala	Leu	Glu	Tyr	Leu	His	Asn	Tyr	Gly	Ile	Val	His	Arg

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Asn	Leu	Tyr	Glu	Gly	His	Ile	Glu	Lys	Asp	Ala	Arg	Glu	Phe	Leu	Asp		
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Leu	Tyr	Glu	Phe	Leu	Val	Gly	Cys	Val	Pro	Phe	Phe	Gly	Asp	Thr	Pro		
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Glu	Glu	Leu	Phe	Gly	Gln	Val	Ile	Ser	Asp	Asp	Ile	Leu	Trp	Pro	Glu		
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Ala	Arg	Leu	Arg	Arg	Pro	Pro	Arg	Pro	Ser	Ser	Asp	Pro	Ala	Gly	Ser		
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Leu	Asp	Ala	Arg	Ala	Pro	Lys	Glu	Glu	Thr	Gln	Gly	Glu	Gly	Thr	Ser		
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Ala	Ser	Ala	Thr	Ala	Leu	Ser	Val	Met	Ile	Pro	Ala	Val	Asp	Pro	His		
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Gly	Ser	Pro	Pro	Leu	Ala	Ser	Pro	Met	Ser	Pro	Arg	Ser	Leu	Ser	Ser		
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Asn	Pro	Ser	Ser	Arg	Asp	Ser	Ser	Pro	Ser	Arg	Asp	Tyr	Ser	Pro	Ala		
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Val	Ser	Gly	Leu	Arg	Ser	Pro	Ile	Thr	Ile	Gln	Arg	Ser	Gly	Lys	Lys		
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Val	Tyr	Ser	Val	His	His	Ile	Val	Trp	His	Val	Glu	Glu	Gly	Gly	Pro	995	1000	1005
Ala	Gln	Glu	Ala	Gly	Leu	Cys	Ala	Gly	Asp	Leu	Ile	Thr	His	Val	Asn	1010	1015	1020
Gly	Glu	Pro	Val	His	Gly	Met	Val	His	Pro	Glu	Val	Val	Glu	Leu	Ile	1025	1030	1035
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Met	Ala	Arg	Arg	Asn	Lys	Arg	Pro	Ser	Ala	Lys	Glu	Gly	Gln	Glu	Ser	1075	1080	1085
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Pro	Lys	Leu	His	Arg	Gln	Tyr	Arg	Ser	Ala	Arg	Cys	Lys	Ser	Ala	Gly	1185	1190	1195
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Glu	Thr	Pro	Pro	Val	Glu	Gly	Leu	Gly	Ala	Pro	Arg	Gln	Val	Ala	Val	1315	1320	1325
Arg	Arg	Leu	Gly	Arg	Gln	Glu	Ser	Pro	Leu	Ser	Leu	Gly	Ala	Asp	Pro	1330	1335	1340
Leu	Leu	Pro	Glu	Gly	Ala	Ser	Arg	Pro	Pro	Val	Ser	Ser	Lys	Glu	Lys	1345	1350	1355
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Pro	Gly	Gly	Arg	Thr	Leu	Glu	Arg	Asp	Val	Gly	Cys	Thr	Arg	His	Gln	1380	1385	1390
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Ser	Ser	Gly	Glu	Ala	Gly	Thr	Pro	Leu	Val	Pro	Ile	Val	Val	Glu	Pro	1425	1430	1435
Ala	Arg	Pro	Gly	Ala	Lys	Ala	Val	Val	Pro	Gln	Pro	Leu	Gly	Ala	Asp	1445	1450	1455
Ser	Lys	Gly	Leu	Gln	Glu	Pro	Ala	Pro	Leu	Ala	Pro	Ser	Val	Pro	Glu			

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 Cys Glu Phe Glu Arg Asn Pro Ala Ala Thr Cys Val Asp Leu Gln Leu
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 Arg Thr Cys Ser Asp Ala Ala Tyr Asn His Thr Thr Phe Pro Asn Leu
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 ctt cag cac cgg tcg tgg gag gtg gtg gag gcc agc tcc gag tac atc 246
 Leu Gln His Arg Ser Trp Glu Val Val Glu Ala Ser Ser Glu Tyr Ile
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 ctg ctg agc gtt cta cac cag ctc ctg gaa ggc cag tgc aac ccg gac 294
 Leu Leu Ser Val Leu His Gln Leu Leu Glu Gly Gln Cys Asn Pro Asp
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 Trp Val Arg Arg Pro Cys Arg His Ile Cys Glu Gly Leu Arg Glu Val
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Met	Phe	Ser	Pro	Thr	Pro	Asp	Glu	Lys	Met	Phe	Lys	Leu	Leu	Ser	Arg	
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Ala	Tyr	Ala	Asp	Val	His	Pro	Met	Met	Met	Asp	Arg	Ser	Glu	Asn	Arg	
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tgt	gga	ggc	aat	ttc	ctg	aag	agg	ggg	agc	atc	atc	aac	ggg	gcg	gac	1350
Cys	Gly	Gly	Asn	Phe	Leu	Lys	Arg	Gly	Ser	Ile	Ile	Asn	Gly	Ala	Asp	
			425					430					435			
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Trp	Tyr	Ser	Phe	Thr	Gly	Gly	Met	Ser	Asp	Phe	Asn	Tyr	Leu	His	Thr	
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Glu	Glu	Ala	Leu	Tyr	Thr	Leu	Trp	Gln	His	Asn	Lys	Glu	Ser	Leu	Leu	
470					475					480					485	
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Asn	Phe	Val	Glu	Thr	Val	His	Arg	Gly	Ile	Lys	Gly	Val	Val	Thr	Asp	
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Lys	Phe	Gly	Lys	Pro	Val	Lys	Asn	Ala	Arg	Ile	Ser	Val	Lys	Gly	Ile	
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Arg	His	Asp	Ile	Thr	Thr	Ala	Pro	Asp	Gly	Asp	Tyr	Trp	Arg	Leu	Leu	
		520					525					530				
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Pro	Pro	Gly	Ile	His	Ile	Val	Ile	Ala	Gln	Ala	Pro	Gly	Tyr	Ala	Lys	
	535					540					545					
gtc	atc	aag	aaa	gtc	atc	atc	ccc	gcc	cgg	atg	aag	agg	gct	ggc	cgt	1734
Val	Ile	Lys	Lys	Val	Ile	Ile	Pro	Ala	Arg	Met	Lys	Arg	Ala	Gly	Arg	
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Val	Asp	Phe	Ile	Leu	Gln	Pro	Leu	Gly	Met	Gly	Pro	Lys	Asn	Phe	Ile	
				570					575						580	
cat	ggg	ctg	cgg	agg	act	ggg	ccc	cac	gac	ccg	ctg	gga	ggg	gcc	agc	1830
His	Gly	Leu	Arg	Arg	Thr	Gly	Pro	His	Asp	Pro	Leu	Gly	Gly	Ala	Ser	
			585					590					595			
tct	ttg	ggg	gag	gcc	acg	gag	ccc	gac	ccg	ctc	cgg	gcg	cgc	agg	cag	1878
Ser	Leu	Gly	Glu	Ala	Thr	Glu	Pro	Asp	Pro	Leu	Arg	Ala	Arg	Arg	Gln	
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Thr Phe Pro Asn Leu Leu Gln His Arg Ser Trp Glu Val Val Glu Ala
50 55 60
Ser Ser Glu Tyr Ile Leu Leu Ser Val Leu His Gln Leu Leu Glu Gly
65 70 75 80
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Gly Leu Arg Glu Val Cys Gln Pro Ala Phe Asp Ala Ile Asp Met Ala
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Trp Pro Tyr Phe Leu Asp Cys His Arg Tyr Phe Thr Arg Glu Asp Glu
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Cys Ala His Val Ala Arg Thr Tyr Ser Ile Gly Arg Ser Phe Asp Gly
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Arg Glu Leu Leu Val Ile Glu Phe Ser Ser Arg Pro Gly Gln His Glu
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Leu Met Glu Pro Glu Val Lys Leu Ile Gly Asn Ile His Gly Asn Glu
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Val Ala Gly Arg Glu Met Leu Ile Tyr Leu Ala Gln Tyr Leu Cys Ser
245 250 255
Glu Tyr Leu Leu Gly Asn Pro Arg Ile Gln Arg Leu Leu Asn Thr Thr
260 265 270
Arg Ile His Leu Leu Pro Ser Ile Asn Pro Asp Gly Tyr Glu Val Ala
275 280 285
Ala Ala Glu Gly Ala Gly Tyr Asn Gly Trp Thr Ser Gly Arg Gln Asn
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Ala Gln Asn Leu Asp Leu Asn Arg Asn Phe Pro Asp Leu Thr Ser Glu
305 310 315 320
Tyr Tyr Arg Leu Ala Glu Thr Arg Gly Ala Arg Ser Asp His Ile Pro
325 330 335

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Pro	Gln	Glu	Glu	Lys	Met	Phe	Ser	Pro	Thr	Pro	Asp	Glu	Lys	Met	Phe
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Lys	Leu	Leu	Ser	Arg	Ala	Tyr	Ala	Asp	Val	His	Pro	Met	Met	Met	Asp
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Arg	Ser	Glu	Asn	Arg	Cys	Gly	Gly	Asn	Phe	Leu	Lys	Arg	Gly	Ser	Ile
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Lys	Glu	Ser	Leu	Leu	Asn	Phe	Val	Glu	Thr	Val	His	Arg	Gly	Ile	Lys
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Tyr	Trp	Arg	Leu	Leu	Pro	Pro	Gly	Ile	His	Ile	Val	Ile	Ala	Gln	Ala
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Leu Phe Leu Thr Thr Met Pro Glu Val Arg Lys Leu Pro Glu Glu Lys	
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 Pro Glu Ile Lys Glu Arg Glu Pro Leu Glu Arg Arg Tyr Pro Lys Leu
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<222> (298)...(1446)

<400> 111

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cacctcttgt cctcggcct ccgcgcctcc cctcccccca ctctctggcc tccattcat 120
tccgtccgct ccttccatt tcctcttttc cgctcgggcc ctctccccag agcctccccg 180
cgcggacccc gctgcagtct cgggggttctc agcacattta tggaagtta gggcctggac 240
agtggccccg agtcggcct gagagcgcag cctgggctgc tggcagggaa gaggaag atg 300
Met
```

1

```
tct gtg ctc agg cgg atg atg cgg gtt tcc aat cgc tct ctc ctc gcc 348
Ser Val Leu Arg Arg Met Met Arg Val Ser Asn Arg Ser Leu Leu Ala
5 10 15
```

```
ttc atc ttc ttc ttc tcc ctc tct tcg tcc tgt ctg tac ttc atc tat 396
Phe Ile Phe Phe Phe Ser Leu Ser Ser Ser Cys Leu Tyr Phe Ile Tyr
20 25 30
```

```
gtg gcc cca ggc atc gcc aac aca tat ctc ttt atg gta caa gct cga 444
Val Ala Pro Gly Ile Ala Asn Thr Tyr Leu Phe Met Val Gln Ala Arg
35 40 45
```

```
ggg ata atg ttg aga gaa aat gtg aaa aca ata ggt cat atg atc agg 492
Gly Ile Met Leu Arg Glu Asn Val Lys Thr Ile Gly His Met Ile Arg
50 55 60 65
```

```
ctg tac aca aat aaa aac agt acg ctc aac ggt aca gat tat ccc gaa 540
Leu Tyr Thr Asn Lys Asn Ser Thr Leu Asn Gly Thr Asp Tyr Pro Glu
70 75 80
```

```
ggc aat aat tca agt gat tat ctt gtt caa aca aca acg tat ctc ccg 588
Gly Asn Asn Ser Ser Asp Tyr Leu Val Gln Thr Thr Thr Tyr Leu Pro
85 90 95
```

```
gaa aac ttc aca tac tca cca tac ctc ccc tgt cca gaa aag ctg cct 636
Glu Asn Phe Thr Tyr Ser Pro Tyr Leu Pro Cys Pro Glu Lys Leu Pro
100 105 110
```

```
tat atg cga gga ttc ctc aat gtc aat gta agc gaa gtc agt ttt gat 684
Tyr Met Arg Gly Phe Leu Asn Val Asn Val Ser Glu Val Ser Phe Asp
115 120 125
```

```
gaa att cat caa ctc ttc tcc aag gat tta gat att gag cca ggg ggt 732
Glu Ile His Gln Leu Phe Ser Lys Asp Leu Asp Ile Glu Pro Gly Gly
130 135 140 145
```

```
cat tgg agg cca aaa gac tgt aaa ccc aga tgg aag gtg gca gtt ctc 780
His Trp Arg Pro Lys Asp Cys Lys Pro Arg Trp Lys Val Ala Val Leu
150 155 160
```

```
att cct ttc cgt aat cgc cat gaa cat ctt cca att ttt ttc tta cat 828
Ile Pro Phe Arg Asn Arg His Glu His Leu Pro Ile Phe Phe Leu His
165 170 175
```

```
ctg att cca atg ctc cag aag cag cgg ctg gaa ttt gcg ttt tat gtc 876
Leu Ile Pro Met Leu Gln Lys Gln Arg Leu Glu Phe Ala Phe Tyr Val
180 185 190
```

att gaa cag act ggc aca caa cct ttt aac cgt gcg atg ctt ttc aat	924
Ile Glu Gln Thr Gly Thr Gln Pro Phe Asn Arg Ala Met Leu Phe Asn	
195 200 205	
gtg ggc ttc aaa gag gcc atg aaa gac agt gtc tgg gac tgt gta atc	972
Val Gly Phe Lys Glu Ala Met Lys Asp Ser Val Trp Asp Cys Val Ile	
210 215 220 225	
ttc cac gat gtg gat cat cta cct gaa aat gac cgg aac tat tac gga	1020
Phe His Asp Val Asp His Leu Pro Glu Asn Asp Arg Asn Tyr Tyr Gly	
230 235 240	
tgt gga gaa atg cca cgt cat ttt gct gca aag ctg gat aaa tac atg	1068
Cys Gly Glu Met Pro Arg His Phe Ala Ala Lys Leu Asp Lys Tyr Met	
245 250 255	
tat att ctt cca tat aaa gaa ttt ttt ggt ggt gta agt ggg ctg aca	1116
Tyr Ile Leu Pro Tyr Lys Glu Phe Phe Gly Gly Val Ser Gly Leu Thr	
260 265 270	
gtg gaa caa ttt aga aag atc aat ggt ttt cct aat gcc ttc tgg gga	1164
Val Glu Gln Phe Arg Lys Ile Asn Gly Phe Pro Asn Ala Phe Trp Gly	
275 280 285	
tgg gga gga gaa gat gat gac ctt tgg aac aga gtt cac tat gct gga	1212
Trp Gly Gly Glu Asp Asp Asp Leu Trp Asn Arg Val His Tyr Ala Gly	
290 295 300 305	
tat aat gta acc aga cca gag gga gac tta gga aaa tac aag tca att	1260
Tyr Asn Val Thr Arg Pro Glu Gly Asp Leu Gly Lys Tyr Lys Ser Ile	
310 315 320	
cct cat cac cat aga ggt gaa gtc cag ttt tta gga cgg tat aaa tta	1308
Pro His His His Arg Gly Glu Val Gln Phe Leu Gly Arg Tyr Lys Leu	
325 330 335	
cta agg tat tcc aag gag cgt cag tac atc gat gga ctg aac aat tta	1356
Leu Arg Tyr Ser Lys Glu Arg Gln Tyr Ile Asp Gly Leu Asn Asn Leu	
340 345 350	
ata tat agg cca aaa ata ctg gtt gat agg ttg tat aca aac ata tct	1404
Ile Tyr Arg Pro Lys Ile Leu Val Asp Arg Leu Tyr Thr Asn Ile Ser	
355 360 365	
gta aac ctc atg cca gag tta gct cca atc gaa gac tat taa	1446
Val Asn Leu Met Pro Glu Leu Ala Pro Ile Glu Asp Tyr *	
370 375 380	
aagaagtggc tgtcgtggca aggtagacca caatgctgga tcataaaactt ggagcgcgct	1506
cttagtggag gtcagtgatt ggctgtgtca cagtgccctt ttctctgaga agagccagca	1566
gtccacagtg tttacagagt gggactatat acagtcaccc ttctctcacc cgtcctccct	1626
gctctgagac acaccctgt ggcgagcacc gcagaaaatgg gaagccacta cttaagatcg	1686
gaagttaaga gagctccctc cgaagagaaa attttttatac taaaatctat aattttaattc	1746
aagagaatgc ttttattttcc gtttaaacat attttgtata tatgtgatat aaattaatgt	1806
gtgcaaatg tttaaaaatt agatgtgttg cagttttgca tgtaatcggg tataccttta	1866
ttggactttt atagacattt tttatttgca tgaaaaaaac tcactaaatt tacatcacta	1926
aacaaagggtt aacccttggtg tgaaatgaag gaactgtcaa taattgacag ccaactaata	1986
cagtaaacctg ttatactagt tttgagcttt agacctcagc cttttgtgtg gaagaagtca	2046
cagctttctt aggcttttaa ggaaaagaag gaaggactta aatagctttt cttcctaccg	2106
ggattaccta tgtttttcct tgcttgcaat ctcatctgat tttgctagaa atcacaacca	2166
tattgtttat gcatattgca tgagtattac caagaaaaat cttaaaaagtt gtgatgtgac	2226

```

atgatataaa ggatctcttt atgttaaagt tctttccatg tacctctggt gtgtcagga 2286
ttttgtgctt caaaaaatgt ttccaagggt gtgtgtttat actgtgtatt ttttttaa 2346
tcacggtgaa cagcactttt attattttcca gttcagaaga gccaaaaaaa agtatcttca 2406
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tacttataat atacaaatga attatactat tagataagaa ttaaattattc tatttttata 2526
aagataaata cttagtagat aaaaacaaat tttaagttaa gtttttcagac atagaatttc 2586
acttttggag gggacccttg aatgttagtt tcattcaaac tatattttgt ttttttctact 2646
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gggctttgtc cagttatctt catatgactg ttctctgaga aaaggctcta ctacctgata 2946
tcaagtacat atcttaattt tggatgaatt tttccacagt aaagccgaac agtattcttt 3006
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acaaaaaatt aaatatctat aaagtgaatg ttcaacaaca atgatgagca atagaaatct 3126
atatatgaga aacgttttga taatatattgc ctcaaggatt gtttacctaa aacagaacta 3186
tggttatttta tctcagattg taagttttat tttgaagtgt catttttatg gcaatattga 3246
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atctgcctta ttttcttaag tctgatgta atttttgttt caggagttag atataaacat 3666
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tgaacttaat atgtttctgt gagagtgaac gagctgtgcc cgtttatctt cattgtatta 3846
attattacat aaagattaac aaatacattg caaatgcaaa ttaaaaaaaa aaaaaaaaaa 3906
aaaaaaaaa aaaaaaaaaa aaaaa 3931

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<210> 112
<211> 382
<212> PRT
<213> Homo sapiens

```

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<400> 112
Met Ser Val Leu Arg Arg Met Met Arg Val Ser Asn Arg Ser Leu Leu
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Ala Phe Ile Phe Phe Ser Leu Ser Ser Ser Cys Leu Tyr Phe Ile
20 25 30
Tyr Val Ala Pro Gly Ile Ala Asn Thr Tyr Leu Phe Met Val Gln Ala
35 40 45
Arg Gly Ile Met Leu Arg Glu Asn Val Lys Thr Ile Gly His Met Ile
50 55 60
Arg Leu Tyr Thr Asn Lys Asn Ser Thr Leu Asn Gly Thr Asp Tyr Pro
65 70 75 80
Glu Gly Asn Asn Ser Ser Asp Tyr Leu Val Gln Thr Thr Thr Tyr Leu
85 90 95
Pro Glu Asn Phe Thr Tyr Ser Pro Tyr Leu Pro Cys Pro Glu Lys Leu
100 105 110
Pro Tyr Met Arg Gly Phe Leu Asn Val Asn Val Ser Glu Val Ser Phe
115 120 125
Asp Glu Ile His Gln Leu Phe Ser Lys Asp Leu Asp Ile Glu Pro Gly
130 135 140
Gly His Trp Arg Pro Lys Asp Cys Lys Pro Arg Trp Lys Val Ala Val
145 150 155 160
Leu Ile Pro Phe Arg Asn Arg His Glu His Leu Pro Ile Phe Phe Leu
165 170 175
His Leu Ile Pro Met Leu Gln Lys Gln Arg Leu Glu Phe Ala Phe Tyr
180 185 190
Val Ile Glu Gln Thr Gly Thr Gln Pro Phe Asn Arg Ala Met Leu Phe

```

	195		200		205										
Asn	Val	Gly	Phe	Lys	Glu	Ala	Met	Lys	Asp	Ser	Val	Trp	Asp	Cys	Val
	210					215						220			
Ile	Phe	His	Asp	Val	Asp	His	Leu	Pro	Glu	Asn	Asp	Arg	Asn	Tyr	Tyr
225					230					235					240
Gly	Cys	Gly	Glu	Met	Pro	Arg	His	Phe	Ala	Ala	Lys	Leu	Asp	Lys	Tyr
				245					250					255	
Met	Tyr	Ile	Leu	Pro	Tyr	Lys	Glu	Phe	Phe	Gly	Gly	Val	Ser	Gly	Leu
			260					265					270		
Thr	Val	Glu	Gln	Phe	Arg	Lys	Ile	Asn	Gly	Phe	Pro	Asn	Ala	Phe	Trp
		275					280					285			
Gly	Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Trp	Asn	Arg	Val	His	Tyr	Ala
290					295					300					
Gly	Tyr	Asn	Val	Thr	Arg	Pro	Glu	Gly	Asp	Leu	Gly	Lys	Tyr	Lys	Ser
305					310					315					320
Ile	Pro	His	His	His	Arg	Gly	Glu	Val	Gln	Phe	Leu	Gly	Arg	Tyr	Lys
				325					330					335	
Leu	Leu	Arg	Tyr	Ser	Lys	Glu	Arg	Gln	Tyr	Ile	Asp	Gly	Leu	Asn	Asn
			340					345				350			
Leu	Ile	Tyr	Arg	Pro	Lys	Ile	Leu	Val	Asp	Arg	Leu	Tyr	Thr	Asn	Ile
		355					360					365			
Ser	Val	Asn	Leu	Met	Pro	Glu	Leu	Ala	Pro	Ile	Glu	Asp	Tyr		
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<210> 113
 <211> 3761
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (70)...(2760)

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 gcggcagga atg ctg cgc gcc gcc ctg tcc ctg ctc gcg ctg ccc ctg gcg 111
 Met Leu Arg Ala Ala Leu Ser Leu Leu Ala Leu Pro Leu Ala
 1 5 10

ggg gcg gcc gaa gag ccc acc cag aag cca gag tcc ccg gcc gag cct 159
 Gly Ala Ala Glu Glu Pro Thr Gln Lys Pro Glu Ser Pro Gly Glu Pro
 15 20 25 30

ccc cca ggc tta gag ctc ttc cgc tgg cag tgg cac gag gtg gag gcg 207
 Pro Pro Gly Leu Glu Leu Phe Arg Trp Gln Trp His Glu Val Glu Ala
 35 40 45

ccc tac ctg gtg gcc ctg tgg atc ctg gtg gcc agt ctg gcc aaa atc 255
 Pro Tyr Leu Val Ala Leu Trp Ile Leu Val Ala Ser Leu Ala Lys Ile
 50 55 60

gtg ttt cac ctg tct cgg aaa gta aca tct ctg gtc cct gag agc tgc 303
 Val Phe His Leu Ser Arg Lys Val Thr Ser Leu Val Pro Glu Ser Cys
 65 70 75

ctg ctg att ttg ctg ggc ctg gtg cta ggg gga att gtt ttg gct gtg 351
 Leu Leu Ile Leu Leu Gly Leu Val Leu Gly Gly Ile Val Leu Ala Val
 80 85 90

gcc aag aaa gct gag tac cag ctg gag cca ggc acc ttc ttc ctc ttc 399

Ala	Lys	Lys	Ala	Glu	Tyr	Gln	Leu	Glu	Pro	Gly	Thr	Phe	Phe	Leu	Phe		
95					100					105					110		
ctg	ctg	cct	cct	att	gtg	ttg	gac	tca	ggc	tat	ttc	atg	cct	agc	agg	447	
Leu	Leu	Pro	Pro	Ile	Val	Leu	Asp	Ser	Gly	Tyr	Phe	Met	Pro	Ser	Arg		
				115					120					125			
ctg	ttc	ttt	gac	aac	ttg	ggg	gcc	atc	ctc	acc	tat	gcc	gtg	gta	ggc	495	
Leu	Phe	Phe	Asp	Asn	Leu	Gly	Ala	Ile	Leu	Thr	Tyr	Ala	Val	Val	Gly		
			130					135					140				
aca	ctc	tgg	aac	gcc	ttc	aca	aca	ggc	gct	gcc	ctc	tgg	ggc	ttg	cag	543	
Thr	Leu	Trp	Asn	Ala	Phe	Thr	Thr	Gly	Ala	Ala	Leu	Trp	Gly	Leu	Gln		
		145					150					155					
cag	gct	gga	ctt	gta	gcc	cct	agg	gtg	cag	gct	ggc	tta	ctg	gac	ttc	591	
Gln	Ala	Gly	Leu	Val	Ala	Pro	Arg	Val	Gln	Ala	Gly	Leu	Leu	Asp	Phe		
	160					165					170						
ctg	ctg	ttt	ggg	agc	ctc	atc	tcg	gcg	gtg	gac	ccc	gtg	gcc	gtg	cta	639	
Leu	Leu	Phe	Gly	Ser	Leu	Ile	Ser	Ala	Val	Asp	Pro	Val	Ala	Val	Leu		
175					180					185					190		
gct	gtc	ttt	gag	gag	gtg	cac	gtc	aac	gag	act	ctc	ttt	atc	atc	gtc	687	
Ala	Val	Phe	Glu	Glu	Val	His	Val	Asn	Glu	Thr	Leu	Phe	Ile	Ile	Val		
				195					200					205			
ttt	ggc	gag	tcc	ctg	ctc	aac	gat	gct	gtc	acc	gtg	gtg	ctg	tac	aag	735	
Phe	Gly	Glu	Ser	Leu	Leu	Asn	Asp	Ala	Val	Thr	Val	Val	Leu	Tyr	Lys		
			210					215					220				
gtc	tgc	aac	tcc	ttt	gtg	gag	atg	ggc	tct	gcc	aac	gtg	cag	gcc	act	783	
Val	Cys	Asn	Ser	Phe	Val	Glu	Met	Gly	Ser	Ala	Asn	Val	Gln	Ala	Thr		
		225					230					235					
gac	tac	ctg	aag	gga	gtc	gcc	tcc	ctg	ttt	gtg	gtc	agt	ctg	ggc	ggg	831	
Asp	Tyr	Leu	Lys	Gly	Val	Ala	Ser	Leu	Phe	Val	Val	Ser	Leu	Gly	Gly		
	240				245						250						
gca	gcc	gtg	ggc	tta	gtc	ttt	gcc	ttc	ctc	ctg	gcc	ctg	acc	aca	cgc	879	
Ala	Ala	Val	Gly	Leu	Val	Phe	Ala	Phe	Leu	Leu	Ala	Leu	Thr	Thr	Arg		
255					260					265					270		
ttc	acc	aag	cgg	gtc	cgc	atc	atc	gag	ccg	ctg	ctg	gtc	ttc	ctc	ctc	927	
Phe	Thr	Lys	Arg	Val	Arg	Ile	Ile	Glu	Pro	Leu	Leu	Val	Phe	Leu	Leu		
				275					280					285			
gcc	tac	gca	gcc	tac	ctc	act	gct	gaa	atg	gcc	tcg	ctc	tcc	gcc	att	975	
Ala	Tyr	Ala	Ala	Tyr	Leu	Thr	Ala	Glu	Met	Ala	Ser	Leu	Ser	Ala	Ile		
			290					295					300				
ctt	gcg	gtg	acc	atg	tgt	ggc	ctg	ggc	tgt	aag	aag	tac	gtg	gag	gcc	1023	
Leu	Ala	Val	Thr	Met	Cys	Gly	Leu	Gly	Cys	Lys	Lys	Tyr	Val	Glu	Ala		
		305					310					315					
aac	atc	tcc	cat	aag	tca	cgc	aca	act	gtc	aaa	tat	aca	atg	aag	act	1071	
Asn	Ile	Ser	His	Lys	Ser	Arg	Thr	Thr	Val	Lys	Tyr	Thr	Met	Lys	Thr		
	320					325					330						
cta	gcc	agc	tgt	gct	gag	acc	gtg	atc	ttc	atg	ctg	ctt	ggc	atc	tca	1119	
Leu	Ala	Ser	Cys	Ala	Glu	Thr	Val	Ile	Phe	Met	Leu	Leu	Gly	Ile	Ser		

335		340		345		350	
gcc gtg gac tct tct aag tgg gcc tgg gat tct ggg ctg gtg ctg ggc	1167	Ala Val Asp Ser Ser Lys Trp Ala Trp Asp Ser Gly Leu Val Leu Gly	355	360	365		
acc ctc atc ttc atc ctg ttc ttc cga gcc ctc ggc gta gtc ctg cag	1215	Thr Leu Ile Phe Ile Leu Phe Phe Arg Ala Leu Gly Val Val Leu Gln	370	375	380		
acc tgg gtg ctg aat cag ttc cgg cta gtc cct ctg gac aag att gac	1263	Thr Trp Val Leu Asn Gln Phe Arg Leu Val Pro Leu Asp Lys Ile Asp	385	390	395		
caa gtg gtg atg tcc tat ggg ggc ctg cgg ggg gct gtg gcc ttt gct	1311	Gln Val Val Met Ser Tyr Gly Gly Leu Arg Gly Ala Val Ala Phe Ala	400	405	410		
ctc gtc atc cta ctg gat agg acc aag gtc cct gcc aag gac tac ttt	1359	Leu Val Ile Leu Leu Asp Arg Thr Lys Val Pro Ala Lys Asp Tyr Phe	415	420	425	430	
gta gcc acc act att gta gtg gtc ttc ttc aca gtc atc gtg cag ggc	1407	Val Ala Thr Thr Ile Val Val Val Phe Phe Thr Val Ile Val Gln Gly	435	440	445		
ttg acc atc aag cca ctg gtc aaa tgg ctg aag gtg aag agg agt gag	1455	Leu Thr Ile Lys Pro Leu Val Lys Trp Leu Lys Val Lys Arg Ser Glu	450	455	460		
cat cac aaa ccc acc ctg aac cag gag ctg cat gaa cac act ttt gac	1503	His His Lys Pro Thr Leu Asn Gln Glu Leu His Glu His Thr Phe Asp	465	470	475		
cac att ctg gct gca gtg gag gac gtt gtg ggg cac cat ggc tac cac	1551	His Ile Leu Ala Ala Val Glu Asp Val Val Gly His His Gly Tyr His	480	485	490		
tac tgg agg gac agg tgg gag cag ttt gac aag aaa tac ctg agt cag	1599	Tyr Trp Arg Asp Arg Trp Glu Gln Phe Asp Lys Lys Tyr Leu Ser Gln	495	500	505	510	
ctg ctg atg cga cga tca gcc tac cgc atc cgg gac cag atc tgg gat	1647	Leu Leu Met Arg Arg Ser Ala Tyr Arg Ile Arg Asp Gln Ile Trp Asp	515	520	525		
gtg tac tac agg ctt aac atc cgg gat gcc atc agc ttt gtg gac cag	1695	Val Tyr Tyr Arg Leu Asn Ile Arg Asp Ala Ile Ser Phe Val Asp Gln	530	535	540		
gga ggc cac gtc ttg tct tcc aca ggt ctc act ctg cct tct atg ccc	1743	Gly Gly His Val Leu Ser Ser Thr Gly Leu Thr Leu Pro Ser Met Pro	545	550	555		
agc cgc aat tct gtg gca gaa act tct gtc acc aac ctg ctg agg gag	1791	Ser Arg Asn Ser Val Ala Glu Thr Ser Val Thr Asn Leu Leu Arg Glu	560	565	570		
agt ggc agt gga gcg tgt ctg gat ctg cag gtg att gac aca gta cgc	1839	Ser Gly Ser Gly Ala Cys Leu Asp Leu Gln Val Ile Asp Thr Val Arg	575	580	585	590	

agc ggc cgg gat cgt gag gat gct gtg atg cat cat ctg ctc tgc gga Ser Gly Arg Asp Arg Glu Asp Ala Val Met His His Leu Leu Cys Gly	1887
595 600 605	
ggc ctc tac aag ccg cgc cgt agg tac aaa gcc agc tgc agt cgc cac Gly Leu Tyr Lys Pro Arg Arg Arg Tyr Lys Ala Ser Cys Ser Arg His	1935
610 615 620	
ttc atc tca gag gat gcg cag gag cgg cag gac aag gag gtc ttc cag Phe Ile Ser Glu Asp Ala Gln Glu Arg Gln Asp Lys Glu Val Phe Gln	1983
625 630 635	
cag aac atg aag cgg cgg ctg gag tcc ttt aag tcc acc aag cac aac Gln Asn Met Lys Arg Arg Leu Glu Ser Phe Lys Ser Thr Lys His Asn	2031
640 645 650	
atc tgc ttc acc aag agc aag cca cga ccc cgc aag act ggc cgc agg Ile Cys Phe Thr Lys Ser Lys Pro Arg Pro Arg Lys Thr Gly Arg Arg	2079
655 660 665 670	
aag aag gat ggt gtg gcg aat gct gag gct aca aat ggg aaa cat cga Lys Lys Asp Gly Val Ala Asn Ala Glu Ala Thr Asn Gly Lys His Arg	2127
675 680 685	
ggc ctg ggc ttt cag gac aca gct gct gtg ata tta acc gtg gag tct Gly Leu Gly Phe Gln Asp Thr Ala Ala Val Ile Leu Thr Val Glu Ser	2175
690 695 700	
gag gag gag gag gag gag agc gac agt tca gag aca gag aag gag gac Glu Glu Glu Glu Glu Glu Ser Asp Ser Ser Glu Thr Glu Lys Glu Asp	2223
705 710 715	
gat gag ggg atc atc ttt gtg gct cgt gcc acc agt gag gtt ctc caa Asp Glu Gly Ile Ile Phe Val Ala Arg Ala Thr Ser Glu Val Leu Gln	2271
720 725 730	
gag ggc aag gtc tca gga agc ctt gag gtg tgc cca agc cca cga atc Glu Gly Lys Val Ser Gly Ser Leu Glu Val Cys Pro Ser Pro Arg Ile	2319
735 740 745 750	
att ccc ccc tcc cca acc tgt gca gaa aag gag ctc ccc tgg aag agt Ile Pro Pro Ser Pro Thr Cys Ala Glu Lys Glu Leu Pro Trp Lys Ser	2367
755 760 765	
ggg cag ggg gac ctg gca gtg tac gtg tcc tcg gaa acc acc aag att Gly Gln Gly Asp Leu Ala Val Tyr Val Ser Ser Glu Thr Thr Lys Ile	2415
770 775 780	
gtg cct gtg gac atg cag acg ggt tgg aac cag agc atc tca tcc ctg Val Pro Val Asp Met Gln Thr Gly Trp Asn Gln Ser Ile Ser Ser Leu	2463
785 790 795	
gag agc cta gcg tcc cct ccc tgt aac cag gcc cca att ctg acc tgc Glu Ser Leu Ala Ser Pro Pro Cys Asn Gln Ala Pro Ile Leu Thr Cys	2511
800 805 810	
ctg cct ccc cat cca cgg ggc act gaa gag ccc cag gtc cct ctc cac Leu Pro Pro His Pro Arg Gly Thr Glu Glu Pro Gln Val Pro Leu His	2559
815 820 825 830	

cta cct tct gat cca cgc tct agc ttc gcc ttc cca ccg agc ctg gcc 2607
 Leu Pro Ser Asp Pro Arg Ser Ser Phe Ala Phe Pro Pro Ser Leu Ala
 835 840 845

aag gct ggc cgc tct cgc agt gag agc agc gct gac ctc ccc cag cag 2655
 Lys Ala Gly Arg Ser Arg Ser Glu Ser Ser Ala Asp Leu Pro Gln Gln
 850 855 860

cag gag ctg cag ccc ctc atg ggc cac aag gac cac acc cat ctc agc 2703
 Gln Glu Leu Gln Pro Leu Met Gly His Lys Asp His Thr His Leu Ser
 865 870 875

cca ggc acc gct acc tcc cac tgg tgc atc cag ttc aac aga ggc agc 2751
 Pro Gly Thr Ala Thr Ser His Trp Cys Ile Gln Phe Asn Arg Gly Ser
 880 885 890

cgg ctg tag ctcaaggcct cggggaggag caggaggtgg aatccctgtg 2800
 Arg Leu *
 895

ggaagtgctc cctgggtgat gggtagagcc ctcgaaactt gacatggggc cagaagggcc 2860
 tgggttgaag tagtaattgg gcttccttgg agctagtcag aggggtcacc taagctggtc 2920
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 gataagaacc catcatctca gggccactgc tccattgctc tgggggctgg gattcctggc 3640
 taagcagggg ctgacagggt ggcaggtgac tttctagggg tcagcacctg ccctgtgttt 3700
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 a 3761

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 20 25 30
 Gly Leu Glu Leu Phe Arg Trp Gln Trp His Glu Val Glu Ala Pro Tyr
 35 40 45
 Leu Val Ala Leu Trp Ile Leu Val Ala Ser Leu Ala Lys Ile Val Phe
 50 55 60
 His Leu Ser Arg Lys Val Thr Ser Leu Val Pro Glu Ser Cys Leu Leu
 65 70 75 80
 Ile Leu Leu Gly Leu Val Leu Gly Gly Ile Val Leu Ala Val Ala Lys
 85 90 95
 Lys Ala Glu Tyr Gln Leu Glu Pro Gly Thr Phe Phe Leu Phe Leu Leu
 100 105 110
 Pro Pro Ile Val Leu Asp Ser Gly Tyr Phe Met Pro Ser Arg Leu Phe
 115 120 125
 Phe Asp Asn Leu Gly Ala Ile Leu Thr Tyr Ala Val Val Gly Thr Leu

130	135	140
Trp Asn Ala Phe Thr Thr Gly Ala Ala Leu Trp Gly Leu Gln Gln Ala		
145	150	155
Gly Leu Val Ala Pro Arg Val Gln Ala Gly Leu Leu Asp Phe Leu Leu		160
	165	170
Phe Gly Ser Leu Ile Ser Ala Val Asp Pro Val Ala Val Leu Ala Val		175
	180	185
Phe Glu Glu Val His Val Asn Glu Thr Leu Phe Ile Ile Val Phe Gly		190
	195	200
Glu Ser Leu Leu Asn Asp Ala Val Thr Val Val Leu Tyr Lys Val Cys		205
	210	215
Asn Ser Phe Val Glu Met Gly Ser Ala Asn Val Gln Ala Thr Asp Tyr		220
225	230	235
Leu Lys Gly Val Ala Ser Leu Phe Val Val Ser Leu Gly Gly Ala Ala		240
	245	250
Val Gly Leu Val Phe Ala Phe Leu Leu Ala Leu Thr Thr Arg Phe Thr		255
	260	265
Lys Arg Val Arg Ile Ile Glu Pro Leu Leu Val Phe Leu Leu Ala Tyr		270
	275	280
		285
Ala Ala Tyr Leu Thr Ala Glu Met Ala Ser Leu Ser Ala Ile Leu Ala		
290	295	300
Val Thr Met Cys Gly Leu Gly Cys Lys Lys Tyr Val Glu Ala Asn Ile		
305	310	315
Ser His Lys Ser Arg Thr Thr Val Lys Tyr Thr Met Lys Thr Leu Ala		320
	325	330
Ser Cys Ala Glu Thr Val Ile Phe Met Leu Leu Gly Ile Ser Ala Val		335
	340	345
Asp Ser Ser Lys Trp Ala Trp Asp Ser Gly Leu Val Leu Gly Thr Leu		350
	355	360
Ile Phe Ile Leu Phe Phe Arg Ala Leu Gly Val Val Leu Gln Thr Trp		365
370	375	380
Val Leu Asn Gln Phe Arg Leu Val Pro Leu Asp Lys Ile Asp Gln Val		
385	390	395
Val Met Ser Tyr Gly Gly Leu Arg Gly Ala Val Ala Phe Ala Leu Val		400
	405	410
Ile Leu Leu Asp Arg Thr Lys Val Pro Ala Lys Asp Tyr Phe Val Ala		415
	420	425
Thr Thr Ile Val Val Val Phe Phe Thr Val Ile Val Gln Gly Leu Thr		430
	435	440
Ile Lys Pro Leu Val Lys Trp Leu Lys Val Lys Arg Ser Glu His His		445
450	455	460
Lys Pro Thr Leu Asn Gln Glu Leu His Glu His Thr Phe Asp His Ile		465
465	470	475
Leu Ala Ala Val Glu Asp Val Val Gly His His Gly Tyr His Tyr Trp		480
	485	490
Arg Asp Arg Trp Glu Gln Phe Asp Lys Lys Tyr Leu Ser Gln Leu Leu		495
	500	505
Met Arg Arg Ser Ala Tyr Arg Ile Arg Asp Gln Ile Trp Asp Val Tyr		510
	515	520
Tyr Arg Leu Asn Ile Arg Asp Ala Ile Ser Phe Val Asp Gln Gly Gly		525
530	535	540
His Val Leu Ser Ser Thr Gly Leu Thr Leu Pro Ser Met Pro Ser Arg		
545	550	555
Asn Ser Val Ala Glu Thr Ser Val Thr Asn Leu Leu Arg Glu Ser Gly		560
	565	570
Ser Gly Ala Cys Leu Asp Leu Gln Val Ile Asp Thr Val Arg Ser Gly		575
	580	585
Arg Asp Arg Glu Asp Ala Val Met His His Leu Leu Cys Gly Gly Leu		590
	595	600
Tyr Lys Pro Arg Arg Arg Tyr Lys Ala Ser Cys Ser Arg His Phe Ile		605

610		615		620											
Ser	Glu	Asp	Ala	Gln	Glu	Arg	Gln	Asp	Lys	Glu	Val	Phe	Gln	Gln	Asn
625		630		635		640									
Met	Lys	Arg	Arg	Leu	Glu	Ser	Phe	Lys	Ser	Thr	Lys	His	Asn	Ile	Cys
		645		650		655									
Phe	Thr	Lys	Ser	Lys	Pro	Arg	Pro	Arg	Lys	Thr	Gly	Arg	Arg	Lys	Lys
		660		665		670									
Asp	Gly	Val	Ala	Asn	Ala	Glu	Ala	Thr	Asn	Gly	Lys	His	Arg	Gly	Leu
		675		680		685									
Gly	Phe	Gln	Asp	Thr	Ala	Ala	Val	Ile	Leu	Thr	Val	Glu	Ser	Glu	Glu
		690		695		700									
Glu	Glu	Glu	Glu	Ser	Asp	Ser	Ser	Glu	Thr	Glu	Lys	Glu	Asp	Asp	Glu
705		710		715		720									
Gly	Ile	Ile	Phe	Val	Ala	Arg	Ala	Thr	Ser	Glu	Val	Leu	Gln	Glu	Gly
		725		730		735									
Lys	Val	Ser	Gly	Ser	Leu	Glu	Val	Cys	Pro	Ser	Pro	Arg	Ile	Ile	Pro
		740		745		750									
Pro	Ser	Pro	Thr	Cys	Ala	Glu	Lys	Glu	Leu	Pro	Trp	Lys	Ser	Gly	Gln
		755		760		765									
Gly	Asp	Leu	Ala	Val	Tyr	Val	Ser	Ser	Glu	Thr	Thr	Lys	Ile	Val	Pro
		770		775		780									
Val	Asp	Met	Gln	Thr	Gly	Trp	Asn	Gln	Ser	Ile	Ser	Ser	Leu	Glu	Ser
785		790		795		800									
Leu	Ala	Ser	Pro	Pro	Cys	Asn	Gln	Ala	Pro	Ile	Leu	Thr	Cys	Leu	Pro
		805		810		815									
Pro	His	Pro	Arg	Gly	Thr	Glu	Glu	Pro	Gln	Val	Pro	Leu	His	Leu	Pro
		820		825		830									
Ser	Asp	Pro	Arg	Ser	Ser	Phe	Ala	Phe	Pro	Pro	Ser	Leu	Ala	Lys	Ala
		835		840		845									
Gly	Arg	Ser	Arg	Ser	Glu	Ser	Ser	Ala	Asp	Leu	Pro	Gln	Gln	Gln	Glu
		850		855		860									
Leu	Gln	Pro	Leu	Met	Gly	His	Lys	Asp	His	Thr	His	Leu	Ser	Pro	Gly
865		870		875		880									
Thr	Ala	Thr	Ser	His	Trp	Cys	Ile	Gln	Phe	Asn	Arg	Gly	Ser	Arg	Leu
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<220>
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 gcccatggag cc atg gcc tat agg gtc ctg ggc cgc gcg ggg cca cct cag 111
 Met Ala Tyr Arg Val Leu Gly Arg Ala Gly Pro Pro Gln
 1 5 10

ccg cgg agg gcg cgc agg ctg ctc ttc gcc ttc acg ctc tcg ctc tcc 159
 Pro Arg Arg Ala Arg Arg Leu Leu Phe Ala Phe Thr Leu Ser Leu Ser
 15 20 25

tgc act tac ctg tgt tac agc ttc ctg tgc tgc tgc gac gac ctg ggt 207
 Cys Thr Tyr Leu Cys Tyr Ser Phe Leu Cys Cys Cys Asp Asp Leu Gly
 30 35 40 45

cgc agc cgc ctc ctc ggc gcg cct cgc tgc ctc cgc ggc ccc agc gcg	255
Arg Ser Arg Leu 50 Gly Ala Pro Arg Cys 55 Leu Arg Gly Pro Ser Ala 60	
ggc ggc cag aaa ctt ctc cag aag tcc cgc ccc tgt gat ccc tcc ggg	303
Gly Gly Gln Lys 65 Leu Leu Gln Lys 70 Ser Arg Pro Cys Asp Pro Ser Gly 75	
ccg acg ccc agc gag ccc agc gct ccc agc gcg ccc gcc gcc gcc gtg	351
Pro Thr 80 Pro Ser Glu Pro Ser Ala 85 Pro Ser Ala Pro Ala Ala Ala Val 90	
ccc gcc cct cgc ctc tcc ggt tcc aac cac tcc ggc tca ccc aag ctg	399
Pro Ala 95 Pro Arg Leu Ser 100 Gly Ser Asn His Ser 105 Gly Ser Pro Lys Leu	
ggt acc aag cgg ttg ccc caa gcc ctc att gtg ggc gtg aag aag ggg	447
Gly Thr Lys Arg Leu 110 Pro Gln Ala Leu 115 Ile Val Gly Val Lys Lys Gly 125	
ggc acc cgg gcc gtg ctg gag ttt atc cga gta cac ccg gac gtg cgg	495
Gly Thr Arg Ala Val 130 Leu Glu Phe Ile Arg Val His Pro Asp Val Arg 140	
gcc ttg ggc acg gaa ccc cac ttc ttt gac agg aac tac ggc cgc ggg	543
Ala Leu Gly Thr 145 Glu Pro His Phe Phe Asp Arg Asn Tyr Gly Arg Gly 155	
ctg gat tgg tac agg agc ctg atg ccc agg acc ctc gag agc cag atc	591
Leu Asp Trp Tyr Arg Ser Leu Met Pro Arg Thr Leu Glu Ser Gln Ile 160 165 170	
acg ctg gag aag acg ccc agc tac ttt gtc act caa gag gct cct cga	639
Thr Leu Glu Lys Thr 175 Pro Ser Tyr Phe Val Thr 185 Gln Glu Ala Pro Arg	
cgc atc ttc aac atg tcc cga gac acc aag ctg atc gtg gtt gtg cgg	687
Arg Ile Phe Asn Met Ser Arg Asp Thr Lys 190 195 Leu Ile Val Val Val Arg 205	
aac cct gtg acc cgt gcc atc tct gat tac acg cag aca ctc tcc aag	735
Asn Pro Val Thr Arg Ala Ile Ser Asp Tyr Thr Gln Thr Leu Ser Lys 210 215 220	
aag ccc gac atc ccg acc ttt gag ggc ctc tcc ttc cgc aac cgc acc	783
Lys Pro Asp Ile Pro Thr Phe Glu Gly Leu Ser Phe Arg Asn Arg Thr 225 230 235	
ctg ggc ctg gtg gac gtg tgc tgg aac gcc atc cgc atc ggc atg tac	831
Leu Gly Leu Val Asp Val Ser Trp Asn Ala Ile Arg Ile Gly Met Tyr 240 245 250	
gtg ctg cac ctg gag agc tgg ctg cag tac ttc ccg cta gct cag att	879
Val Leu His Leu Glu Ser Trp Leu Gln Tyr Phe Pro Leu Ala Gln Ile 255 260 265	
cac ttc gtc agt ggc gag cga ctc atc act gac ccg gcc ggc gag atg	927
His Phe Val Ser Gly Glu Arg Leu Ile Thr Asp Pro Ala Gly Glu Met 270 275 280 285	
ggg cga gtc cag gac ttc ctg ggc att aag aga ttc atc acg gac aag	975

Gly	Arg	Val	Gln	Asp	Phe	Leu	Gly	Ile	Lys	Arg	Phe	Ile	Thr	Asp	Lys		
				290					295					300			
cac	ttc	tat	ttc	aac	aag	acc	aaa	gga	ttc	cct	tgc	ttg	aaa	aaa	aca	1023	
His	Phe	Tyr	Phe	Asn	Lys	Thr	Lys	Gly	Phe	Pro	Cys	Leu	Lys	Lys	Thr		
			305					310					315				
gaa	tcg	agc	ctc	ctg	cct	cga	tgc	ttg	ggc	aaa	tca	aaa	ggg	aga	act	1071	
Glu	Ser	Ser	Leu	Leu	Pro	Arg	Cys	Leu	Gly	Lys	Ser	Lys	Gly	Arg	Thr		
			320				325					330					
cat	gta	cag	att	gat	cct	gaa	gtg	ata	gac	cag	ctc	cga	gaa	ttt	tat	1119	
His	Val	Gln	Ile	Asp	Pro	Glu	Val	Ile	Asp	Gln	Leu	Arg	Glu	Phe	Tyr		
			335			340					345						
aga	ccg	tat	aat	atc	aaa	ttt	tat	gaa	acc	gtt	ggg	cag	gac	ttc	agg	1167	
Arg	Pro	Tyr	Asn	Ile	Lys	Phe	Tyr	Glu	Thr	Val	Gly	Gln	Asp	Phe	Arg		
					355					360					365		
tg	g	a	t	a	g	c	c	a	c	a	g	a	a	a	a		
Trp	Glu	*														1216	

tctcttccgt	gagatttgct	cccagaccct	cttatctccc	tccaacaaac	cctgggtcca	1276	
gccccctttc	ccaacttgag	ttgcatcatc	ttggaaccag	gaagcccagc	taaagccaag	1336	
agaccagaga	gtctctgcca	ctagttttca	tcagtctgtt	caagcaaagt	tgatctgttc	1396	
ctggcacgtc	cagtaaattc	cagaatcatt	ctcctttctg	ccataaaagg	gccttgagga	1456	
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gttgctatga	acacagcagt	cggtcctgt	cattgtccac	ccaggagtgg	ccttggtta	1576	
tccaagtggc	atgtatcttc	cctctgagct	tcatttcttc	aagatgctct	gggtgggtggg	1636	
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acgagctttc	atgttcagca	tgcaatggaa	tcattgcttg	ccatgtgaaa	taaataatggc	1936	
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 <212> PRT
 <213> Homo sapiens

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			20					25					30			
Leu	Cys	Tyr	Ser	Phe	Leu	Cys	Cys	Cys	Asp	Asp	Leu	Gly	Arg	Ser	Arg	
		35				40						45				
Leu	Leu	Gly	Ala	Pro	Arg	Cys	Leu	Arg	Gly	Pro	Ser	Ala	Gly	Gly	Gln	
	50					55					60					
Lys	Leu	Leu	Gln	Lys	Ser	Arg	Pro	Cys	Asp	Pro	Ser	Gly	Pro	Thr	Pro	
65				70						75					80	
Ser	Glu	Pro	Ser	Ala	Pro	Ser	Ala	Pro	Ala	Ala	Ala	Val	Pro	Ala	Pro	
				85					90					95		
Arg	Leu	Ser	Gly	Ser	Asn	His	Ser	Gly	Ser	Pro	Lys	Leu	Gly	Thr	Lys	
			100					105					110			
Arg	Leu	Pro	Gln	Ala	Leu	Ile	Val	Gly	Val	Lys	Lys	Gly	Gly	Thr	Arg	
		115				120						125				
Ala	Val	Leu	Glu	Phe	Ile	Arg	Val	His	Pro	Asp	Val	Arg	Ala	Leu	Gly	
	130					135					140					

Thr	Glu	Pro	His	Phe	Phe	Asp	Arg	Asn	Tyr	Gly	Arg	Gly	Leu	Asp	Trp
145					150					155					160
Tyr	Arg	Ser	Leu	Met	Pro	Arg	Thr	Leu	Glu	Ser	Gln	Ile	Thr	Leu	Glu
				165					170						175
Lys	Thr	Pro	Ser	Tyr	Phe	Val	Thr	Gln	Glu	Ala	Pro	Arg	Arg	Ile	Phe
			180					185						190	
Asn	Met	Ser	Arg	Asp	Thr	Lys	Leu	Ile	Val	Val	Val	Arg	Asn	Pro	Val
	195						200					205			
Thr	Arg	Ala	Ile	Ser	Asp	Tyr	Thr	Gln	Thr	Leu	Ser	Lys	Lys	Pro	Asp
	210					215					220				
Ile	Pro	Thr	Phe	Glu	Gly	Leu	Ser	Phe	Arg	Asn	Arg	Thr	Leu	Gly	Leu
225					230					235					240
Val	Asp	Val	Ser	Trp	Asn	Ala	Ile	Arg	Ile	Gly	Met	Tyr	Val	Leu	His
				245					250					255	
Leu	Glu	Ser	Trp	Leu	Gln	Tyr	Phe	Pro	Leu	Ala	Gln	Ile	His	Phe	Val
			260					265					270		
Ser	Gly	Glu	Arg	Leu	Ile	Thr	Asp	Pro	Ala	Gly	Glu	Met	Gly	Arg	Val
		275					280					285			
Gln	Asp	Phe	Leu	Gly	Ile	Lys	Arg	Phe	Ile	Thr	Asp	Lys	His	Phe	Tyr
	290					295					300				
Phe	Asn	Lys	Thr	Lys	Gly	Phe	Pro	Cys	Leu	Lys	Lys	Thr	Glu	Ser	Ser
305					310					315					320
Leu	Leu	Pro	Arg	Cys	Leu	Gly	Lys	Ser	Lys	Gly	Arg	Thr	His	Val	Gln
				325					330					335	
Ile	Asp	Pro	Glu	Val	Ile	Asp	Gln	Leu	Arg	Glu	Phe	Tyr	Arg	Pro	Tyr
		340						345					350		
Asn	Ile	Lys	Phe	Tyr	Glu	Thr	Val	Gly	Gln	Asp	Phe	Arg	Trp	Glu	
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<211> 2104

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<213> Homo sapiens

<220>

<221> CDS

<222> (96)...(1616)

<400> 117

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Met Asp Asp Tyr Met Val
1 5

ctg aga atg att ggg gag ggc tcc ttc ggc aga gct ctt ttg gtt cag 161
Leu Arg Met Ile Gly Glu Gly Ser Phe Gly Arg Ala Leu Leu Val Gln
10 15 20

cat gaa agc agt aat cag atg ttt gcc atg aaa gaa ata agg ctt ccc 209
His Glu Ser Ser Asn Gln Met Phe Ala Met Lys Glu Ile Arg Leu Pro
25 30 35

aag tct ttc tct aat aca cag aat tct agg aag gag gct gtt ctt tta 257
Lys Ser Phe Ser Asn Thr Gln Asn Ser Arg Lys Glu Ala Val Leu Leu
40 45 50

gcc aaa atg aaa cac cct aat att gtt gcc ttc aaa gaa tca ttt gaa 305
Ala Lys Met Lys His Pro Asn Ile Val Ala Phe Lys Glu Ser Phe Glu
55 60 65 70

gct gaa gga cac ttg tat att gtg atg gaa tac tgt gat gga ggg gat	353
Ala Glu Gly His Leu Tyr Ile Val Met Glu Tyr Cys Asp Gly Gly Asp	
75 80 85	
cta atg caa aag att aaa cag cag aaa gga aag tta ttt cct gaa gac	401
Leu Met Gln Lys Ile Lys Gln Gln Lys Gly Lys Leu Phe Pro Glu Asp	
90 95 100	
atg ata ctt aat tgg ttt acc caa atg tgc ctt gga gta aat cac att	449
Met Ile Leu Asn Trp Phe Thr Gln Met Cys Leu Gly Val Asn His Ile	
105 110 115	
cac aag aaa cgt gtg cta cac aga gat atc aag tcc aag aat atc ttc	497
His Lys Lys Arg Val Leu His Arg Asp Ile Lys Ser Lys Asn Ile Phe	
120 125 130	
ctc act cag aat gga aaa gtg aaa ttg gga gac ttt gga tct gcc cgt	545
Leu Thr Gln Asn Gly Lys Val Lys Leu Gly Asp Phe Gly Ser Ala Arg	
135 140 145 150	
ctt ctc tcc aat ccg atg gca ttt gct tgt acc tat gtg gga act cct	593
Leu Leu Ser Asn Pro Met Ala Phe Ala Cys Thr Tyr Val Gly Thr Pro	
155 160 165	
tat tat gtg cct cca gaa att tgg gaa aac ctg cct tat aac aat aaa	641
Tyr Tyr Val Pro Pro Glu Ile Trp Glu Asn Leu Pro Tyr Asn Asn Lys	
170 175 180	
agt gac atc tgg tcc ttg ggt tgc atc ctg tat gaa ctc tgt acc ctt	689
Ser Asp Ile Trp Ser Leu Gly Cys Ile Leu Tyr Glu Leu Cys Thr Leu	
185 190 195	
aag cat cca ttt cag gca aat agt tgg aaa aat ctt atc ctc aaa gta	737
Lys His Pro Phe Gln Ala Asn Ser Trp Lys Asn Leu Ile Leu Lys Val	
200 205 210	
tgt caa ggg tgc atc agt cca ctg ccg tct cat tac tcc tat gaa ctt	785
Cys Gln Gly Cys Ile Ser Pro Leu Pro Ser His Tyr Ser Tyr Glu Leu	
215 220 225 230	
cag ttc cta gtc aag cag atg ttt aaa agg aat ccc tca cat cgc ccc	833
Gln Phe Leu Val Lys Gln Met Phe Lys Arg Asn Pro Ser His Arg Pro	
235 240 245	
tcg gct aca acg ctt ctc tct cga ggc atc gta gct cgg ctt gtc cag	881
Ser Ala Thr Thr Leu Leu Ser Arg Gly Ile Val Ala Arg Leu Val Gln	
250 255 260	
aag tgc tta ccc ccc gag atc atc atg gaa tat ggt gag gaa gta tta	929
Lys Cys Leu Pro Pro Glu Ile Ile Met Glu Tyr Gly Glu Glu Val Leu	
265 270 275	
gaa gaa ata aaa aat tcg aag cat aac aca cca aga aaa aaa aca aac	977
Glu Glu Ile Lys Asn Ser Lys His Asn Thr Pro Arg Lys Lys Thr Asn	
280 285 290	
ccc agc aga atc agg ata gct ttg gga aat gaa gca agc aca gtg caa	1025
Pro Ser Arg Ile Arg Ile Ala Leu Gly Asn Glu Ala Ser Thr Val Gln	
295 300 305 310	
gag gaa gaa caa gat aga aag ggt agc cat act gat ttg gaa agc att	1073

Glu Glu Glu Gln Asp Arg Lys Gly Ser His Thr Asp Leu Glu Ser Ile	
315 320 325	
aat gaa aat tta gtt gaa agt gca ttg aga aga gta aac aga gaa gaa	1121
Asn Glu Asn Leu Val Glu Ser Ala Leu Arg Arg Val Asn Arg Glu Glu	
330 335 340	
aaa ggt aat aag tca gtc cat ctg agg aaa gcc agt tca cca aat ctt	1169
Lys Gly Asn Lys Ser Val His Leu Arg Lys Ala Ser Ser Pro Asn Leu	
345 350 355	
cat aga cga cag tgg gag aaa aat gta ccc aat aca gct ctt aca gct	1217
His Arg Arg Gln Trp Glu Lys Asn Val Pro Asn Thr Ala Leu Thr Ala	
360 365 370	
ttg gaa aat gca tcc ata ctc acc tcc agt tta aca gca gag gac gat	1265
Leu Glu Asn Ala Ser Ile Leu Thr Ser Ser Leu Thr Ala Glu Asp Asp	
375 380 385 390	
aga ggt ggt tct gta ata aag tac agc aaa aat act act cgt aag cag	1313
Arg Gly Gly Ser Val Ile Lys Tyr Ser Lys Asn Thr Thr Arg Lys Gln	
395 400 405	
tgg ctc aaa gag acc cct gac act ttg ttg aac atc ctt aag aat gct	1361
Trp Leu Lys Glu Thr Pro Asp Thr Leu Leu Asn Ile Leu Lys Asn Ala	
410 415 420	
gat ctc agc ttg gct ttt caa aca tac aca ata tat aga cca ggt tca	1409
Asp Leu Ser Leu Ala Phe Gln Thr Tyr Thr Ile Tyr Arg Pro Gly Ser	
425 430 435	
gaa ggg ttc ttg aaa ggc ccc ctg tct gaa gaa aca gaa gca tcg gac	1457
Glu Gly Phe Leu Lys Gly Pro Leu Ser Glu Glu Thr Glu Ala Ser Asp	
440 445 450	
agt gtt gat gga ggt cac gat tct gtc att ttg gat cca gag cga ctt	1505
Ser Val Asp Gly Gly His Asp Ser Val Ile Leu Asp Pro Glu Arg Leu	
455 460 465 470	
gag cct ggg cta gat gag gag gac acg gac ttt gag gag gaa gat gac	1553
Glu Pro Gly Leu Asp Glu Glu Asp Thr Asp Phe Glu Glu Glu Asp Asp	
475 480 485	
aac ccc gac tgg gtg tca gag ctg aag aag cga gct gga tgg caa ggc	1601
Asn Pro Asp Trp Val Ser Glu Leu Lys Lys Arg Ala Gly Trp Gln Gly	
490 495 500	
ctg tgc gac aga taa tgcctgagga aatgttcctg agtcacgctg aggagagcct	1656
Leu Cys Asp Arg *	
505	
tcactcagga gttcatgctg agatgatcat gagttcatgc gacgtatatatt ttcctttgga	1716
aacagaatga agcagaggaa actcttaata cttaaaatcg ttcttgatta gtatcgtgag	1776
tttgaaaagt ctagaactcc tgtaagtttt tgaactcaag ggagaaggta tagtggaatg	1836
agtgtgagca tccggctttg cagtcccata gaacagaaat gggatgctag cgtgccacta	1896
cctacttgtg tgattgtggg aaattactta acctcttcaa gcccgaattt cctcaaccat	1956
aaaatgaaga taataatgcc tacctcagag ggatgctgac cacagacctt tatagcagcc	2016
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ctaaagggttt gagaattaaa tccccccc	2104

<210> 118

<211> 506
 <212> PRT
 <213> Homo sapiens

<400> 118

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Arg	Ala	Leu	Leu	Val	Gln	His	Glu	Ser	Ser	Asn	Gln	Met	Phe	Ala	Met
			20					25					30		
Lys	Glu	Ile	Arg	Leu	Pro	Lys	Ser	Phe	Ser	Asn	Thr	Gln	Asn	Ser	Arg
	35						40					45			
Lys	Glu	Ala	Val	Leu	Leu	Ala	Lys	Met	Lys	His	Pro	Asn	Ile	Val	Ala
	50					55					60				
Phe	Lys	Glu	Ser	Phe	Glu	Ala	Glu	Gly	His	Leu	Tyr	Ile	Val	Met	Glu
65					70					75					80
Tyr	Cys	Asp	Gly	Gly	Asp	Leu	Met	Gln	Lys	Ile	Lys	Gln	Gln	Lys	Gly
			85						90					95	
Lys	Leu	Phe	Pro	Glu	Asp	Met	Ile	Leu	Asn	Trp	Phe	Thr	Gln	Met	Cys
			100					105					110		
Leu	Gly	Val	Asn	His	Ile	His	Lys	Lys	Arg	Val	Leu	His	Arg	Asp	Ile
		115					120					125			
Lys	Ser	Lys	Asn	Ile	Phe	Leu	Thr	Gln	Asn	Gly	Lys	Val	Lys	Leu	Gly
	130					135					140				
Asp	Phe	Gly	Ser	Ala	Arg	Leu	Leu	Ser	Asn	Pro	Met	Ala	Phe	Ala	Cys
145					150					155					160
Thr	Tyr	Val	Gly	Thr	Pro	Tyr	Tyr	Val	Pro	Pro	Glu	Ile	Trp	Glu	Asn
			165						170					175	
Leu	Pro	Tyr	Asn	Asn	Lys	Ser	Asp	Ile	Trp	Ser	Leu	Gly	Cys	Ile	Leu
			180					185					190		
Tyr	Glu	Leu	Cys	Thr	Leu	Lys	His	Pro	Phe	Gln	Ala	Asn	Ser	Trp	Lys
	195						200					205			
Asn	Leu	Ile	Leu	Lys	Val	Cys	Gln	Gly	Cys	Ile	Ser	Pro	Leu	Pro	Ser
	210						215					220			
His	Tyr	Ser	Tyr	Glu	Leu	Gln	Phe	Leu	Val	Lys	Gln	Met	Phe	Lys	Arg
225					230						235				240
Asn	Pro	Ser	His	Arg	Pro	Ser	Ala	Thr	Thr	Leu	Leu	Ser	Arg	Gly	Ile
			245						250					255	
Val	Ala	Arg	Leu	Val	Gln	Lys	Cys	Leu	Pro	Pro	Glu	Ile	Ile	Met	Glu
			260					265					270		
Tyr	Gly	Glu	Glu	Val	Leu	Glu	Glu	Ile	Lys	Asn	Ser	Lys	His	Asn	Thr
	275						280					285			
Pro	Arg	Lys	Lys	Thr	Asn	Pro	Ser	Arg	Ile	Arg	Ile	Ala	Leu	Gly	Asn
	290				295						300				
Glu	Ala	Ser	Thr	Val	Gln	Glu	Glu	Gln	Asp	Arg	Lys	Gly	Ser	His	
305					310				315					320	
Thr	Asp	Leu	Glu	Ser	Ile	Asn	Glu	Asn	Leu	Val	Glu	Ser	Ala	Leu	Arg
			325						330					335	
Arg	Val	Asn	Arg	Glu	Glu	Lys	Gly	Asn	Lys	Ser	Val	His	Leu	Arg	Lys
			340					345					350		
Ala	Ser	Ser	Pro	Asn	Leu	His	Arg	Arg	Gln	Trp	Glu	Lys	Asn	Val	Pro
	355						360					365			
Asn	Thr	Ala	Leu	Thr	Ala	Leu	Glu	Asn	Ala	Ser	Ile	Leu	Thr	Ser	Ser
	370					375					380				
Leu	Thr	Ala	Glu	Asp	Asp	Arg	Gly	Gly	Ser	Val	Ile	Lys	Tyr	Ser	Lys
385					390					395					400
Asn	Thr	Thr	Arg	Lys	Gln	Trp	Leu	Lys	Glu	Thr	Pro	Asp	Thr	Leu	Leu
			405						410					415	
Asn	Ile	Leu	Lys	Asn	Ala	Asp	Leu	Ser	Leu	Ala	Phe	Gln	Thr	Tyr	Thr
			420					425					430		
Ile	Tyr	Arg	Pro	Gly	Ser	Glu	Gly	Phe	Leu	Lys	Gly	Pro	Leu	Ser	Glu

ctg cga aat gtc atg tgg ttc ctg ctg cag ctc gtt gac cat gaa gtg	528
Leu Arg Asn Val Met Trp Phe Leu Leu Gln Leu Val Asp His Glu Val	
165 170 175	
cac gag agc aat gag gtc tgg tgc cac tgc atc acc acc atc ttc aac	576
His Glu Ser Asn Glu Val Trp Cys His Cys Ile Thr Thr Ile Phe Asn	
180 185 190	
tac ttc gtg gtg acc aac ttc ttc tgg atg ttt gtg gaa ggc tgc tac	624
Tyr Phe Val Val Thr Asn Phe Phe Trp Met Phe Val Glu Gly Cys Tyr	
195 200 205	
ctg cac acg gcc att gtc atg acc tac tcc act gag cgc ctg cgc aag	672
Leu His Thr Ala Ile Val Met Thr Tyr Ser Thr Glu Arg Leu Arg Lys	
210 215 220	
tgc ctc ttc ctc ttc atc gga tgg tgc atc ccc ttc ccc atc atc gtc	720
Cys Leu Phe Leu Phe Ile Gly Trp Cys Ile Pro Phe Pro Ile Ile Val	
225 230 235 240	
gcc tgg gcc atc ggc aag ctc tac tat gag aat gaa cag tgc tgg ttt	768
Ala Trp Ala Ile Gly Lys Leu Tyr Tyr Glu Asn Glu Gln Cys Trp Phe	
245 250 255	
ggc aag gag cct ggc gac ctg gtg gac tac atc tac caa ggc ccc atc	816
Gly Lys Glu Pro Gly Asp Leu Val Asp Tyr Ile Tyr Gln Gly Pro Ile	
260 265 270	
att ctc gtg ctc ctg atc aat ttc gta ttt ctg ttc aac atc gtc agg	864
Ile Leu Val Leu Leu Ile Asn Phe Val Phe Leu Phe Asn Ile Val Arg	
275 280 285	
atc cta atg aca aag tta cgc gcg tcc acc aca tcc gag aca atc cag	912
Ile Leu Met Thr Lys Leu Arg Ala Ser Thr Thr Ser Glu Thr Ile Gln	
290 295 300	
tac agg aag gca gtg aag gcc acc ctg gtg ctc ctg ccc ctc ctg ggc	960
Tyr Arg Lys Ala Val Lys Ala Thr Leu Val Leu Leu Pro Leu Leu Gly	
305 310 315 320	
atc acc tac atg ctc ttc ttc gtc aat ccc ggg gag gac gac ctg tca	1008
Ile Thr Tyr Met Leu Phe Phe Val Asn Pro Gly Glu Asp Asp Leu Ser	
325 330 335	
cag atc atg ttc atc tat ttc aac tcc ttc ctg cag tgc ttc cag ggt	1056
Gln Ile Met Phe Ile Tyr Phe Asn Ser Phe Leu Gln Ser Phe Gln Gly	
340 345 350	
ttc ttc gtg tct gtc ttc tac tgc ttc ttc aat gga gag gtg cgc tca	1104
Phe Phe Val Ser Val Phe Tyr Cys Phe Phe Asn Gly Glu Val Arg Ser	
355 360 365	
gcc gtg agg aag agg tgg cac cgc tgg cag gac cat cac tcc ctt cga	1152
Ala Val Arg Lys Arg Trp His Arg Trp Gln Asp His His Ser Leu Arg	
370 375 380	
gtc ccc atg gcc cgg gcc atg tcc atc cct aca tca ccc aca cgg atc	1200
Val Pro Met Ala Arg Ala Met Ser Ile Pro Thr Ser Pro Thr Arg Ile	
385 390 395 400	
agc ttc cac agc atc aag cag acg gcc gct gtg tga cccctcggtc	1246

Ser Phe His Ser Ile Lys Gln Thr Ala Ala Val *
 405 410

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gccacctgc acagctcccc tgtctcctc caccttcttc ctctgggttc tctgtgctgg 1306
gcaggctctc gtggggcagg agatgggagg ggagagacca gctctccagc ctggcaggaa 1366
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ctcagcgcaa gaggaagcag aggggaattca caggaccccc tgagaagagc cagtcagatg 1486
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<210> 120
 <211> 411
 <212> PRT
 <213> Homo sapiens

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  20          25          30
Pro Glu Gly Pro Tyr Ser Tyr Cys Asn Thr Thr Leu Asp Gln Ile Gly
  35          40          45
Thr Cys Trp Pro Arg Ser Ala Ala Gly Ala Leu Val Glu Arg Pro Cys
  50          55          60
Pro Glu Tyr Phe Asn Gly Val Lys Tyr Asn Thr Thr Arg Asn Ala Tyr
  65          70          75          80
Arg Glu Cys Leu Glu Asn Gly Thr Trp Ala Ser Lys Ile Asn Tyr Ser
  85          90          95
Gln Cys Glu Pro Ile Leu Asp Asp Lys Gln Arg Lys Tyr Asp Leu His
  100         105         110
Tyr Arg Ile Ala Leu Val Val Asn Tyr Leu Gly His Cys Val Ser Val
  115         120         125
Ala Ala Leu Val Ala Ala Phe Leu Leu Phe Leu Ala Leu Arg Ser Ile
  130         135         140
Arg Cys Leu Arg Asn Val Ile His Trp Asn Leu Ile Thr Thr Phe Ile
  145         150         155         160
Leu Arg Asn Val Met Trp Phe Leu Leu Gln Leu Val Asp His Glu Val
  165         170         175
His Glu Ser Asn Glu Val Trp Cys His Cys Ile Thr Thr Ile Phe Asn
  180         185         190
Tyr Phe Val Val Thr Asn Phe Phe Trp Met Phe Val Glu Gly Cys Tyr
  195         200         205
Leu His Thr Ala Ile Val Met Thr Tyr Ser Thr Glu Arg Leu Arg Lys
  210         215         220
Cys Leu Phe Leu Phe Ile Gly Trp Cys Ile Pro Phe Pro Ile Ile Val
  225         230         235         240
Ala Trp Ala Ile Gly Lys Leu Tyr Tyr Glu Asn Glu Gln Cys Trp Phe
  245         250         255
Gly Lys Glu Pro Gly Asp Leu Val Asp Tyr Ile Tyr Gln Gly Pro Ile
  260         265         270
Ile Leu Val Leu Leu Ile Asn Phe Val Phe Leu Phe Asn Ile Val Arg
  
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	275		280		285										
Ile	Leu	Met	Thr	Lys	Leu	Arg	Ala	Ser	Thr	Thr	Ser	Glu	Thr	Ile	Gln
	290					295					300				
Tyr	Arg	Lys	Ala	Val	Lys	Ala	Thr	Leu	Val	Leu	Leu	Pro	Leu	Leu	Gly
305					310					315					320
Ile	Thr	Tyr	Met	Leu	Phe	Phe	Val	Asn	Pro	Gly	Glu	Asp	Asp	Leu	Ser
			325						330					335	
Gln	Ile	Met	Phe	Ile	Tyr	Phe	Asn	Ser	Phe	Leu	Gln	Ser	Phe	Gln	Gly
		340					345					350			
Phe	Phe	Val	Ser	Val	Phe	Tyr	Cys	Phe	Phe	Asn	Gly	Glu	Val	Arg	Ser
	355					360					365				
Ala	Val	Arg	Lys	Arg	Trp	His	Arg	Trp	Gln	Asp	His	His	Ser	Leu	Arg
370						375					380				
Val	Pro	Met	Ala	Arg	Ala	Met	Ser	Ile	Pro	Thr	Ser	Pro	Thr	Arg	Ile
385				390					395						400
Ser	Phe	His	Ser	Ile	Lys	Gln	Thr	Ala	Ala	Val					
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<210> 121
 <211> 1663
 <212> DNA
 <213> Homo sapiens

<220>
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 aggactggga gctcttctct gaaattcgat caacctgaag ccagttgctg aactgcacgg 120
 ggtcccg atg gac ctc aag gaa agc ccc agt gag ggc agc ctg caa cct 169
 Met Asp Leu Lys Glu Ser Pro Ser Glu Gly Ser Leu Gln Pro
 1 5 10

tct agc atc cag atc ttt gcc aac acc tcc acc ctc cat ggc atc cgc 217
 Ser Ser Ile Gln Ile Phe Ala Asn Thr Ser Thr Leu His Gly Ile Arg
 15 20 25 30

cac atc ttc gtg tat ggg ccg ctg acc atc cgg cgt gtg ctg tgg gca 265
 His Ile Phe Val Tyr Gly Pro Leu Thr Ile Arg Arg Val Leu Trp Ala
 35 40 45

gtg gcc ttc gtg ggc tct ctg ggc ctg ctg ctg gtg gag agc tct gag 313
 Val Ala Phe Val Gly Ser Leu Gly Leu Leu Leu Val Glu Ser Ser Glu
 50 55 60

agg gtg tcc tac tac ttc tcc tac cag cat gtc act aag gtg gac gaa 361
 Arg Val Ser Tyr Tyr Phe Ser Tyr Gln His Val Thr Lys Val Asp Glu
 65 70 75

gtg gtg gct caa agc ctg gtc ttc cca gct gtg acc ctc tgt aac ctc 409
 Val Val Ala Gln Ser Leu Val Phe Pro Ala Val Thr Leu Cys Asn Leu
 80 85 90

aat ggc ttc cgg ttc tcc agg ctc acc acc aac gac ctg tac cat gct 457
 Asn Gly Phe Arg Phe Ser Arg Leu Thr Thr Asn Asp Leu Tyr His Ala
 95 100 105 110

ggg gag ctg ctg gcc ctg ctg gat gtc aac ctg cag atc ccg gac ccc 505
 Gly Glu Leu Leu Ala Leu Leu Asp Val Asn Leu Gln Ile Pro Asp Pro

	115	120	125	
cat ctg gct gac ccc tcc gtg ctg gag gcc ctg cgg cag aag gcc aac	553			
His Leu Ala Asp Pro Ser Val Leu Glu Ala Leu Arg Gln Lys Ala Asn				
130 135 140				
ttc aag cac tac aaa ccc aag cag ttc agc atg ctg gag ttc ctg cac	601			
Phe Lys His Tyr Lys Pro Lys Gln Phe Ser Met Leu Glu Phe Leu His				
145 150 155				
cgt gtg ggc cat gac ctg aag gat atg atg ctc tac tgc aag ttc aaa	649			
Arg Val Gly His Asp Leu Lys Asp Met Met Leu Tyr Cys Lys Phe Lys				
160 165 170				
ggg cag gag tgc ggc cac caa gac ttc acc aca gtg ttt aca aaa tat	697			
Gly Gln Glu Cys Gly His Gln Asp Phe Thr Thr Val Phe Thr Lys Tyr				
175 180 185 190				
ggg aag tgt tac atg ttt aac tca ggc gag gat ggc aaa cct ctg ctc	745			
Gly Lys Cys Tyr Met Phe Asn Ser Gly Glu Asp Gly Lys Pro Leu Leu				
195 200 205				
acc acg gtc aag ggg ggg aca ggc aac ggg ctg gag atc atg ctg gac	793			
Thr Thr Val Lys Gly Gly Thr Gly Asn Gly Leu Glu Ile Met Leu Asp				
210 215 220				
att cag cag gat gag tac ctg ccc atc tgg gga gag aca gag gaa acg	841			
Ile Gln Gln Asp Glu Tyr Leu Pro Ile Trp Gly Glu Thr Glu Glu Thr				
225 230 235				
aca ttt gaa gca gga gtg aaa gtt cag atc cac agt cag tct gag cca	889			
Thr Phe Glu Ala Gly Val Lys Val Gln Ile His Ser Gln Ser Glu Pro				
240 245 250				
cct ttc atc caa gag ctg ggc ttt ggg gtg gct cca ggg ttc cag acc	937			
Pro Phe Ile Gln Glu Leu Gly Phe Gly Val Ala Pro Gly Phe Gln Thr				
255 260 265 270				
ttt gtg gcc aca cag gag cag agg ctc aca tac ctg ccc cca ccg tgg	985			
Phe Val Ala Thr Gln Glu Gln Arg Leu Thr Tyr Leu Pro Pro Pro Trp				
275 280 285				
ggt gag tgc cga tcc tca gag atg ggc ctc gac ttt ttt cct gtt tac	1033			
Gly Glu Cys Arg Ser Ser Glu Met Gly Leu Asp Phe Phe Pro Val Tyr				
290 295 300				
agc atc acc gcc tgt agg att gac tgt gag acc cgc tac att gtg gaa	1081			
Ser Ile Thr Ala Cys Arg Ile Asp Cys Glu Thr Arg Tyr Ile Val Glu				
305 310 315				
aac tgc aac tgc cgc atg gtt cac atg cca ggg gat gcc cct ttt tgt	1129			
Asn Cys Asn Cys Arg Met Val His Met Pro Gly Asp Ala Pro Phe Cys				
320 325 330				
acc cct gag cag cac aag gag tgt gca gag cct gcc cta ggt ctg ttg	1177			
Thr Pro Glu Gln His Lys Glu Cys Ala Glu Pro Ala Leu Gly Leu Leu				
335 340 345 350				
gcg gaa aag gac agc aat tac tgt ctc tgc agg aca ccc tgc aac cta	1225			
Ala Glu Lys Asp Ser Asn Tyr Cys Leu Cys Arg Thr Pro Cys Asn Leu				
355 360 365				

acc cgc tac aac aaa gag ctc tcc atg gtg aag atc ccc agc aag aca	1273
Thr Arg Tyr Asn Lys Glu Leu Ser Met Val Lys Ile Pro Ser Lys Thr	
370 375 380	
tca gcc aag tac ctt gag aag aaa ttt aac aaa tca gaa aaa tat atc	1321
Ser Ala Lys Tyr Leu Glu Lys Lys Phe Asn Lys Ser Glu Lys Tyr Ile	
385 390 395	
tca gag aac atc ctt gtt ctg gat ata ttt ttt gaa gct ctc aat tat	1369
Ser Glu Asn Ile Leu Val Leu Asp Ile Phe Phe Glu Ala Leu Asn Tyr	
400 405 410	
gag aca att gaa cag aag aag gcg tat gaa gtt gct gcc tta ctt ggt	1417
Glu Thr Ile Glu Gln Lys Lys Ala Tyr Glu Val Ala Ala Leu Leu Gly	
415 420 425 430	
gat att ggt ggt cag atg gga ttg ttc att ggt gct agt atc ctt aca	1465
Asp Ile Gly Gly Gln Met Gly Leu Phe Ile Gly Ala Ser Ile Leu Thr	
435 440 445	
ata cta gag ctc ttt gat tat att tat gag ctg atc aaa gag aag cta	1513
Ile Leu Glu Leu Phe Asp Tyr Ile Tyr Glu Leu Ile Lys Glu Lys Leu	
450 455 460	
tta gac ctg ctt ggc aaa gag gag gat gaa ggg agc cac gat gag aat	1561
Leu Asp Leu Leu Gly Lys Glu Glu Asp Glu Gly Ser His Asp Glu Asn	
465 470 475	
gtg agt act tgt gac aca atg cca aac cac tct gaa acc atc agt cac	1609
Val Ser Thr Cys Asp Thr Met Pro Asn His Ser Glu Thr Ile Ser His	
480 485 490	
act gtg aac gtg ccc ctg cag acg acc ctg ggg acc ctg gaa gaa ata	1657
Thr Val Asn Val Pro Leu Gln Thr Thr Leu Gly Thr Leu Glu Glu Ile	
495 500 505 510 510	
gcc tgc	1663
Ala Cys	

<210> 122

<211> 512

<212> PRT

<213> Homo sapiens

<400> 122

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Phe Val Tyr Gly Pro Leu Thr Ile Arg Arg Val Leu Trp Ala Val Ala	
35 40 45	
Phe Val Gly Ser Leu Gly Leu Leu Val Glu Ser Ser Glu Arg Val	
50 55 60	
Ser Tyr Tyr Phe Ser Tyr Gln His Val Thr Lys Val Asp Glu Val Val	
65 70 75 80	
Ala Gln Ser Leu Val Phe Pro Ala Val Thr Leu Cys Asn Leu Asn Gly	
85 90 95	
Phe Arg Phe Ser Arg Leu Thr Thr Asn Asp Leu Tyr His Ala Gly Glu	

<222> (1)...(3645)

<400> 123

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aaa gcc att ctt gtt aaa tct aca gaa gat ggc aga cag tat gtt atc	96
Lys Ala Ile Leu Val Lys Ser Thr Glu Asp Gly Arg Gln Tyr Val Ile	
20 25 30	
aag gaa att aac atc tca aga atg tcc agt aaa gaa aga gaa gaa tca	144
Lys Glu Ile Asn Ile Ser Arg Met Ser Ser Lys Glu Arg Glu Glu Ser	
35 40 45	
agg aga gaa gtt gca gta ttg gca aac atg aag cat cca aat att gtc	192
Arg Arg Glu Val Ala Val Leu Ala Asn Met Lys His Pro Asn Ile Val	
50 55 60	
cag tat aga gaa tca ttt gaa gaa aat ggc tct ctc tac ata gta atg	240
Gln Tyr Arg Glu Ser Phe Glu Glu Asn Gly Ser Leu Tyr Ile Val Met	
65 70 75 80	
gat tac tgt gag gga ggg gat ctg ttt aag cga ata aat gct cag aaa	288
Asp Tyr Cys Glu Gly Gly Asp Leu Phe Lys Arg Ile Asn Ala Gln Lys	
85 90 95	
ggc gtt ttg ttt caa gag gat cag att ttg gac tgg ttt gta cag ata	336
Gly Val Leu Phe Gln Glu Asp Gln Ile Leu Asp Trp Phe Val Gln Ile	
100 105 110	
tgt ttg gcc ctg aaa cat gta cat gat aga aaa att ctt cat cga gac	384
Cys Leu Ala Leu Lys His Val His Asp Arg Lys Ile Leu His Arg Asp	
115 120 125	
att aaa tct cag aac ata ttt tta act aaa gat gga aca gta caa ctt	432
Ile Lys Ser Gln Asn Ile Phe Leu Thr Lys Asp Gly Thr Val Gln Leu	
130 135 140	
gga gat ttt gga att gct aga gtt ctt aat agt act gta gag ctg gct	480
Gly Asp Phe Gly Ile Ala Arg Val Leu Asn Ser Thr Val Glu Leu Ala	
145 150 155 160	
cga act tgc ata ggg acc cca tac tac ttg tca cct gaa atc tgt gaa	528
Arg Thr Cys Ile Gly Thr Pro Tyr Tyr Leu Ser Pro Glu Ile Cys Glu	
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Asn Lys Pro Tyr Asn Asn Lys Ser Asp Ile Trp Ala Leu Gly Cys Val	
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Leu Tyr Glu Leu Cys Thr Leu Lys His Ala Phe Glu Ala Gly Ser Met	
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Lys Asn Leu Val Leu Lys Ile Ile Ser Gly Ser Phe Pro Pro Val Ser	
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Leu His Tyr Ser Tyr Asp Leu Arg Ser Leu Val Ser Gln Leu Phe Lys	

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Ile Glu Ser Leu Lys Ala His Ala Asn Ala Arg Ala Ala Val Leu Lys	
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Ser Pro Pro Leu Gly Gln His Glu Thr Gly Gly Ser Pro Ser Lys Gln	
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Val Asp Ser Ser Leu Thr Asp Thr Arg Glu Thr Ser Glu Glu Met Gln	
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Lys Thr Asn Asn Ala Ile Ser Ser Lys Arg Glu Ile Leu Arg Arg Leu	
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Thr	Gly	Leu	Phe	Asp	Ala	Asn	Asn	Pro	Lys	Met	Leu	Arg	Thr	Cys	Ser	
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His	Ser	Asp	Asn	Ser	Asp	Gly	Glu	Ile	Ala	Ser	Glu	Cys	Glu	Cys	Asp	
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Ser	Val	Phe	Asn	His	Leu	Glu	Glu	Leu	Arg	Leu	His	Leu	Glu	Gln	Glu	
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1205

1210

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Val	Gly	Asp	Val	Arg	Gln	Asp	Asn	Leu	Glu	Ile	Asp	Glu	Ile	Lys	Asp	
1025					1030					1035					1040	
Glu	Asn	Ile	Lys	Glu	Gly	Pro	Ser	Asp	Ser	Glu	Asp	Ile	Val	Phe	Glu	
				1045					1050					1055		
Glu	Thr	Asp	Thr	Asp	Leu	Gln	Glu	Leu	Gln	Ala	Ser	Met	Glu	Gln	Leu	
			1060					1065					1070			
Leu	Arg	Glu	Gln	Pro	Gly	Glu	Glu	Tyr	Ser	Glu	Glu	Glu	Glu	Ser	Val	
	1075						1080					1085				
Leu	Lys	Asn	Ser	Asp	Val	Glu	Pro	Thr	Ala	Asn	Gly	Thr	Asp	Val	Ala	
	1090					1095					1100					
Asp	Glu	Asp	Asp	Asn	Pro	Ser	Ser	Glu	Ser	Ala	Leu	Asn	Glu	Glu	Trp	
1105				1110						1115					1120	
His	Ser	Asp	Asn	Ser	Asp	Gly	Glu	Ile	Ala	Ser	Glu	Cys	Glu	Cys	Asp	
			1125						1130					1135		
Ser	Val	Phe	Asn	His	Leu	Glu	Glu	Leu	Arg	Leu	His	Leu	Glu	Gln	Glu	
		1140						1145					1150			
Met	Gly	Phe	Glu	Lys	Phe	Phe	Glu	Val	Tyr	Glu	Lys	Ile	Lys	Ala	Ile	
	1155						1160					1165				
His	Glu	Asp	Glu	Asp	Glu	Asn	Ile	Glu	Ile	Cys	Ser	Lys	Ile	Val	Gln	
	1170					1175					1180					
Asn	Ile	Leu	Gly	Asn	Glu	His	Gln	His	Leu	Tyr	Ala	Lys	Ile	Leu	His	
1185				1190						1195					1200	
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<210> 125

<211> 1471

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (53)...(1324)

<400> 125

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Met Met
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Tyr Arg Pro Asp Val Val Arg Ala Arg Lys Arg Val Cys Trp Glu Pro
5 10 15

tgg gtt atc ggc ctc gtc atc ttc ata tcc ctg att gtc ctg gca gtg 154

Trp	Val	Ile	Gly	Leu	Val	Ile	Phe	Ile	Ser	Leu	Ile	Val	Leu	Ala	Val		
20						25					30						
tgc	att	gga	ctc	act	gtt	cat	tat	gtg	aga	tat	aat	caa	aag	aag	acc	202	
Cys	Ile	Gly	Leu	Thr	Val	His	Tyr	Val	Arg	Tyr	Asn	Gln	Lys	Lys	Thr		
35					40				45						50		
tac	aat	tac	tat	agc	aca	ttg	tca	ttt	aca	act	gac	aaa	cta	tat	gct	250	
Tyr	Asn	Tyr	Tyr	Ser	Thr	Leu	Ser	Phe	Thr	Thr	Asp	Lys	Leu	Tyr	Ala		
				55				60					65				
gag	ttt	ggc	aga	gag	gct	tct	aac	aat	ttt	aca	gaa	atg	agc	cag	aga	298	
Glu	Phe	Gly	Arg	Glu	Ala	Ser	Asn	Asn	Phe	Thr	Glu	Met	Ser	Gln	Arg		
			70				75					80					
ctt	gaa	tca	atg	gtg	aaa	aat	gca	ttt	tat	aaa	tct	cca	tta	agg	gaa	346	
Leu	Glu	Ser	Met	Val	Lys	Asn	Ala	Phe	Tyr	Lys	Ser	Pro	Leu	Arg	Glu		
		85					90					95					
gaa	ttt	gtc	aag	tct	cag	gtt	atc	aag	ttc	agt	caa	cag	aag	cat	gga	394	
Glu	Phe	Val	Lys	Ser	Gln	Val	Ile	Lys	Phe	Ser	Gln	Gln	Lys	His	Gly		
	100				105						110						
gtg	ttg	gct	cat	atg	ctg	ttg	att	tgt	aga	ttt	cac	tct	act	gag	gat	442	
Val	Leu	Ala	His	Met	Leu	Leu	Ile	Cys	Arg	Phe	His	Ser	Thr	Glu	Asp		
115					120				125						130		
cct	gaa	act	gta	gat	aaa	att	gtt	caa	ctt	gtt	tta	cat	gaa	aag	ctg	490	
Pro	Glu	Thr	Val	Asp	Lys	Ile	Val	Gln	Leu	Val	Leu	His	Glu	Lys	Leu		
				135				140						145			
caa	gat	gct	gta	gga	ccc	cct	aaa	gta	gat	cct	cac	tca	gtt	aaa	att	538	
Gln	Asp	Ala	Val	Gly	Pro	Pro	Lys	Val	Asp	Pro	His	Ser	Val	Lys	Ile		
			150					155					160				
aaa	aaa	atc	aac	aag	aca	gaa	aca	gac	agc	tat	cta	aac	cat	tgc	tgc	586	
Lys	Lys	Ile	Asn	Lys	Thr	Glu	Thr	Asp	Ser	Tyr	Leu	Asn	His	Cys	Cys		
		165					170					175					
gga	aca	cga	aga	agt	aaa	act	cta	ggg	cag	agt	ctc	agg	atc	gtt	ggg	634	
Gly	Thr	Arg	Arg	Ser	Lys	Thr	Leu	Gly	Gln	Ser	Leu	Arg	Ile	Val	Gly		
	180					185					190						
ggg	aca	gaa	gta	gaa	gag	ggg	gaa	tgg	ccc	tgg	cag	gct	agc	ctg	cag	682	
Gly	Thr	Glu	Val	Glu	Glu	Gly	Glu	Trp	Pro	Trp	Gln	Ala	Ser	Leu	Gln		
	195				200					205				210			
tgg	gat	ggg	agt	cat	cgc	tgt	gga	gca	acc	tta	att	aat	gcc	aca	tgg	730	
Trp	Asp	Gly	Ser	His	Arg	Cys	Gly	Ala	Thr	Leu	Ile	Asn	Ala	Thr	Trp		
				215					220					225			
ctt	gtg	agt	gct	gct	cac	tgt	ttt	aca	aca	tat	aag	aac	cct	gcc	aga	778	
Leu	Val	Ser	Ala	Ala	His	Cys	Phe	Thr	Thr	Tyr	Lys	Asn	Pro	Ala	Arg		
			230					235					240				
tgg	act	gct	tcc	ttt	gga	gta	aca	ata	aaa	cct	tcg	aaa	atg	aaa	cgg	826	
Trp	Thr	Ala	Ser	Phe	Gly	Val	Thr	Ile	Lys	Pro	Ser	Lys	Met	Lys	Arg		
		245					250					255					
ggg	ctc	cgg	aga	ata	att	gtc	cat	gaa	aaa	tac	aaa	cac	cca	tca	cat	874	

Gly	Leu	Arg	Arg	Ile	Ile	Val	His	Glu	Lys	Tyr	Lys	His	Pro	Ser	His		
260						265					270						
gac	tat	gat	att	tct	ctt	gca	gag	ctt	tct	agc	cct	gtt	ccc	tac	aca	922	
Asp	Tyr	Asp	Ile	Ser	Leu	Ala	Glu	Leu	Ser	Ser	Pro	Val	Pro	Tyr	Thr		
275					280					285					290		
aat	gca	gta	cat	aga	gtt	tgt	ctc	cct	gat	gca	tcc	tat	gag	ttt	caa	970	
Asn	Ala	Val	His	Arg	Val	Cys	Leu	Pro	Asp	Ala	Ser	Tyr	Glu	Phe	Gln		
				295					300					305			
cca	ggg	gat	gtg	atg	ttt	gtg	aca	gga	ttt	gga	gca	ctg	aaa	aat	gat	1018	
Pro	Gly	Asp	Val	Met	Phe	Val	Thr	Gly	Phe	Gly	Ala	Leu	Lys	Asn	Asp		
			310					315					320				
ggg	tac	agt	caa	aat	cat	ctt	cga	caa	gca	cag	gtg	act	ctc	ata	gac	1066	
Gly	Tyr	Ser	Gln	Asn	His	Leu	Arg	Gln	Ala	Gln	Val	Thr	Leu	Ile	Asp		
		325					330					335					
gct	aca	act	tgc	aat	gaa	cct	caa	gct	tac	aat	gac	gcc	ata	act	cct	1114	
Ala	Thr	Thr	Cys	Asn	Glu	Pro	Gln	Ala	Tyr	Asn	Asp	Ala	Ile	Thr	Pro		
	340					345					350						
aga	atg	tta	tgt	gct	ggc	tcc	tta	gaa	gga	aaa	aca	gat	gca	tgc	cag	1162	
Arg	Met	Leu	Cys	Ala	Gly	Ser	Leu	Glu	Gly	Lys	Thr	Asp	Ala	Cys	Gln		
355					360					365					370		
ggg	gac	tct	gga	gga	cca	ctg	gtt	agt	tca	gat	gct	aga	gat	atc	tgg	1210	
Gly	Asp	Ser	Gly	Gly	Pro	Leu	Val	Ser	Ser	Asp	Ala	Arg	Asp	Ile	Trp		
			375						380					385			
tac	ctt	gct	gga	ata	gtg	agc	tgg	gga	gat	gaa	tgt	gcg	aaa	ccc	aac	1258	
Tyr	Leu	Ala	Gly	Ile	Val	Ser	Trp	Gly	Asp	Glu	Cys	Ala	Lys	Pro	Asn		
			390					395					400				
aag	cct	ggg	gtt	tat	act	aga	gtt	acg	gcc	ttg	cgg	gac	tgg	att	act	1306	
Lys	Pro	Gly	Val	Tyr	Thr	Arg	Val	Thr	Ala	Leu	Arg	Asp	Trp	Ile	Thr		
		405					410					415					
tca	aaa	act	ggg	atc	taa	gagagaaaag cctcatggaa cagataacat										1354	
Ser	Lys	Thr	Gly	Ile	*												
		420															
ttttttttgt	tttttgggtg	tgaggccat	tttttagagat	acagaattgg	agaagacttg	1414											
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<210> 126

<211> 423

<212> PRT

<213> Homo sapiens

<400> 126

Met	Met	Tyr	Arg	Pro	Asp	Val	Val	Arg	Ala	Arg	Lys	Arg	Val	Cys	Trp		
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Glu	Pro	Trp	Val	Ile	Gly	Leu	Val	Ile	Phe	Ile	Ser	Leu	Ile	Val	Leu		
			20					25					30				
Ala	Val	Cys	Ile	Gly	Leu	Thr	Val	His	Tyr	Val	Arg	Tyr	Asn	Gln	Lys		
		35					40					45					
Lys	Thr	Tyr	Asn	Tyr	Tyr	Ser	Thr	Leu	Ser	Phe	Thr	Thr	Asp	Lys	Leu		
	50					55						60					

Tyr	Ala	Glu	Phe	Gly	Arg	Glu	Ala	Ser	Asn	Asn	Phe	Thr	Glu	Met	Ser
65					70					75					80
Gln	Arg	Leu	Glu	Ser	Met	Val	Lys	Asn	Ala	Phe	Tyr	Lys	Ser	Pro	Leu
				85					90					95	
Arg	Glu	Glu	Phe	Val	Lys	Ser	Gln	Val	Ile	Lys	Phe	Ser	Gln	Gln	Lys
			100					105					110		
His	Gly	Val	Leu	Ala	His	Met	Leu	Leu	Ile	Cys	Arg	Phe	His	Ser	Thr
		115					120					125			
Glu	Asp	Pro	Glu	Thr	Val	Asp	Lys	Ile	Val	Gln	Leu	Val	Leu	His	Glu
	130					135					140				
Lys	Leu	Gln	Asp	Ala	Val	Gly	Pro	Pro	Lys	Val	Asp	Pro	His	Ser	Val
145				150						155					160
Lys	Ile	Lys	Lys	Ile	Asn	Lys	Thr	Glu	Thr	Asp	Ser	Tyr	Leu	Asn	His
			165						170					175	
Cys	Cys	Gly	Thr	Arg	Arg	Ser	Lys	Thr	Leu	Gly	Gln	Ser	Leu	Arg	Ile
		180						185					190		
Val	Gly	Gly	Thr	Glu	Val	Glu	Glu	Gly	Glu	Trp	Pro	Trp	Gln	Ala	Ser
		195				200						205			
Leu	Gln	Trp	Asp	Gly	Ser	His	Arg	Cys	Gly	Ala	Thr	Leu	Ile	Asn	Ala
	210					215					220				
Thr	Trp	Leu	Val	Ser	Ala	Ala	His	Cys	Phe	Thr	Thr	Tyr	Lys	Asn	Pro
225				230						235					240
Ala	Arg	Trp	Thr	Ala	Ser	Phe	Gly	Val	Thr	Ile	Lys	Pro	Ser	Lys	Met
			245						250					255	
Lys	Arg	Gly	Leu	Arg	Arg	Ile	Ile	Val	His	Glu	Lys	Tyr	Lys	His	Pro
		260						265					270		
Ser	His	Asp	Tyr	Asp	Ile	Ser	Leu	Ala	Glu	Leu	Ser	Ser	Pro	Val	Pro
	275						280						285		
Tyr	Thr	Asn	Ala	Val	His	Arg	Val	Cys	Leu	Pro	Asp	Ala	Ser	Tyr	Glu
	290				295						300				
Phe	Gln	Pro	Gly	Asp	Val	Met	Phe	Val	Thr	Gly	Phe	Gly	Ala	Leu	Lys
305				310						315					320
Asn	Asp	Gly	Tyr	Ser	Gln	Asn	His	Leu	Arg	Gln	Ala	Gln	Val	Thr	Leu
				325					330					335	
Ile	Asp	Ala	Thr	Thr	Cys	Asn	Glu	Pro	Gln	Ala	Tyr	Asn	Asp	Ala	Ile
		340						345					350		
Thr	Pro	Arg	Met	Leu	Cys	Ala	Gly	Ser	Leu	Glu	Gly	Lys	Thr	Asp	Ala
	355						360					365			
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Val	Ser	Ser	Asp	Ala	Arg	Asp
	370					375					380				
Ile	Trp	Tyr	Leu	Ala	Gly	Ile	Val	Ser	Trp	Gly	Asp	Glu	Cys	Ala	Lys
385				390						395					400
Pro	Asn	Lys	Pro	Gly	Val	Tyr	Thr	Arg	Val	Thr	Ala	Leu	Arg	Asp	Trp
			405						410					415	
Ile	Thr	Ser	Lys	Thr	Gly	Ile									
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<210> 127
 <211> 1907
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (217)...(1530)

<400> 127
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 cccggagaac ctgtgcggtg tgtagagggt gctgtgagcc acctccagcc tcgggtggct 180

gcttaagtaa ctttcaactc ctctcttctt aacact	atg aag tgt ctc ggg aag	234
	Met Lys Cys Leu Gly Lys	
	1 5	
cgc agg ggc cag gca gct gct ttc ctg cct ctt tgc tgg ctc ttt ttg	282	
Arg Arg Gly Gln Ala Ala Ala Phe Leu Pro Leu Cys Trp Leu Phe Leu		
10 15 20		
aag att ctg caa ccg ggg cac agc cac ctt tat aac aac cgc tat gct	330	
Lys Ile Leu Gln Pro Gly His Ser His Leu Tyr Asn Asn Arg Tyr Ala		
25 30 35		
ggg gat aaa gtg ata aga ttt att ccc aaa aca gaa gag gaa gca tat	378	
Gly Asp Lys Val Ile Arg Phe Ile Pro Lys Thr Glu Glu Glu Ala Tyr		
40 45 50		
gca ctg aag aaa ata tcc tat caa ctt aag gtg gac ctg tgg cag ccc	426	
Ala Leu Lys Lys Ile Ser Tyr Gln Leu Lys Val Asp Leu Trp Gln Pro		
55 60 65 70		
agc agt atc tcc tat gta tca gag gga aca gtt act gat gtc cat atc	474	
Ser Ser Ile Ser Tyr Val Ser Glu Gly Thr Val Thr Asp Val His Ile		
75 80 85		
ccc caa aat ggt tcc cga gcc ctg tta gcc ttc tta cag gaa gcc aac	522	
Pro Gln Asn Gly Ser Arg Ala Leu Leu Ala Phe Leu Gln Glu Ala Asn		
90 95 100		
atc cag tac aag gtc ctc ata gaa gat ctt cag aaa aca ctg gag aag	570	
Ile Gln Tyr Lys Val Leu Ile Glu Asp Leu Gln Lys Thr Leu Glu Lys		
105 110 115		
gga agc agc ttg cac acc cag aga aac cga aga tcc ctc tct gga tat	618	
Gly Ser Ser Leu His Thr Gln Arg Asn Arg Arg Ser Leu Ser Gly Tyr		
120 125 130		
aat tat gaa gtt tat cac tcc tta gaa gaa att caa aat tgg atg cat	666	
Asn Tyr Glu Val Tyr His Ser Leu Glu Glu Ile Gln Asn Trp Met His		
135 140 145 150		
cat ctg aat aaa act cac tca ggc ctc att cac atg ttc tct att gga	714	
His Leu Asn Lys Thr His Ser Gly Leu Ile His Met Phe Ser Ile Gly		
155 160 165		
aga tca tat gag gga aga tgt ctt ttt att tta aag ctg ggc aga cga	762	
Arg Ser Tyr Glu Gly Arg Cys Leu Phe Ile Leu Lys Leu Gly Arg Arg		
170 175 180		
tca cga ctc aaa aga gct gtt tgg ata gac tgt ggt att cat gca aga	810	
Ser Arg Leu Lys Arg Ala Val Trp Ile Asp Cys Gly Ile His Ala Arg		
185 190 195		
gaa tgg att ggt cct gcc ttt tgt cag tgg ttt gta aaa gaa gct ctt	858	
Glu Trp Ile Gly Pro Ala Phe Cys Gln Trp Phe Val Lys Glu Ala Leu		
200 205 210		
cta aca tat aag agt gac cca gcc atg aga aaa atg ttg aat cat cta	906	
Leu Thr Tyr Lys Ser Asp Pro Ala Met Arg Lys Met Leu Asn His Leu		
215 220 225 230		
tat ttc tat atc atg cct gtg ttt aac gtc gat gga tac cat ttt agt	954	

Tyr	Phe	Tyr	Ile	Met	Pro	Val	Phe	Asn	Val	Asp	Gly	Tyr	His	Phe	Ser		
				235					240					245			
tgg	acc	aat	gat	cga	ttt	tgg	aga	aaa	aca	agg	tca	agg	aac	tca	agg	1002	
Trp	Thr	Asn	Asp	Arg	Phe	Trp	Arg	Lys	Thr	Arg	Ser	Arg	Asn	Ser	Arg		
			250					255					260				
ttt	cgc	tgc	cgt	gga	gtg	gat	gcc	aat	aga	aac	tgg	aaa	gtg	aag	tgg	1050	
Phe	Arg	Cys	Arg	Gly	Val	Asp	Ala	Asn	Arg	Asn	Trp	Lys	Val	Lys	Trp		
		265					270					275					
tgt	gat	gaa	gga	gct	tct	atg	cac	cct	tgt	gat	gac	aca	tac	tgt	ggc	1098	
Cys	Asp	Glu	Gly	Ala	Ser	Met	His	Pro	Cys	Asp	Asp	Thr	Tyr	Cys	Gly		
	280					285					290						
cct	ttt	cca	gaa	tct	gag	ccg	gaa	gtg	aag	gct	gta	gct	aac	ttc	ctt	1146	
Pro	Phe	Pro	Glu	Ser	Glu	Pro	Glu	Val	Lys	Ala	Val	Ala	Asn	Phe	Leu		
295					300					305					310		
cga	aaa	cac	aga	aag	cac	att	agg	gct	tat	ctc	tcc	ttt	cat	gca	tat	1194	
Arg	Lys	His	Arg	Lys	His	Ile	Arg	Ala	Tyr	Leu	Ser	Phe	His	Ala	Tyr		
				315					320					325			
gct	cag	atg	tta	ctg	tat	ccc	tat	tct	tac	aaa	tat	gca	aca	att	ccc	1242	
Ala	Gln	Met	Leu	Leu	Tyr	Pro	Tyr	Ser	Tyr	Lys	Tyr	Ala	Thr	Ile	Pro		
			330					335					340				
aat	ttt	aga	tgt	gtg	gaa	tct	gca	gct	tat	aaa	gct	gtg	aat	gca	ctt	1290	
Asn	Phe	Arg	Cys	Val	Glu	Ser	Ala	Ala	Tyr	Lys	Ala	Val	Asn	Ala	Leu		
		345					350					355					
cag	tca	gta	tac	ggg	gta	cga	tac	aga	tat	gga	cca	gcc	tcc	aca	acg	1338	
Gln	Ser	Val	Tyr	Gly	Val	Arg	Tyr	Arg	Tyr	Gly	Pro	Ala	Ser	Thr	Thr		
	360					365					370						
ttg	tat	gtg	agc	tct	ggg	agc	tca	atg	gat	tgg	gcc	tac	aaa	aat	gga	1386	
Leu	Tyr	Val	Ser	Ser	Gly	Ser	Ser	Met	Asp	Trp	Ala	Tyr	Lys	Asn	Gly		
375					380					385					390		
ata	cct	tat	gca	ttt	gct	ttc	gaa	cta	cgt	gac	act	gga	tat	ttt	gga	1434	
Ile	Pro	Tyr	Ala	Phe	Ala	Phe	Glu	Leu	Arg	Asp	Thr	Gly	Tyr	Phe	Gly		
				395					400					405			
ttt	tta	ctc	cca	gag	atg	ctc	atc	aaa	ccc	acc	tgt	aca	gaa	act	atg	1482	
Phe	Leu	Leu	Pro	Glu	Met	Leu	Ile	Lys	Pro	Thr	Cys	Thr	Glu	Thr	Met		
			410					415					420				
ctg	gct	gtg	aaa	aat	atc	aca	atg	cac	ctg	cta	aag	aaa	tgt	ccc	tga	1530	
Leu	Ala	Val	Lys	Asn	Ile	Thr	Met	His	Leu	Leu	Lys	Lys	Cys	Pro	*		
		425					430					435					
gacagcccaa	ggctcaggtc	aactgccata	ggattctgag	caaggcctac	ttggccctgg	1590											
atagaaattg	ttttcaaaga	gaagggcagc	tgcttagagt	gaacatgtct	atggacttta	1650											
aaaagacccc	acgcaatttg	actttgtggc	aatagaaaac	agtaaaaaac	agggcatagc	1710											
ctagtttggt	ataagaaaaa	gcatccattt	tctatccttt	tagagtctta	tttgattatg	1770											
gtgggaggga	atgttttcaa	atttcccatt	tctcaagaaa	tgttcatatt	aattgaggat	1830											
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<210> 128

<211> 437

<212> PRT

<213> Homo sapiens

<400> 128

Met	Lys	Cys	Leu	Gly	Lys	Arg	Arg	Gly	Gln	Ala	Ala	Ala	Phe	Leu	Pro
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Leu	Cys	Trp	Leu	Phe	Leu	Lys	Ile	Leu	Gln	Pro	Gly	His	Ser	His	Leu
			20					25					30		
Tyr	Asn	Asn	Arg	Tyr	Ala	Gly	Asp	Lys	Val	Ile	Arg	Phe	Ile	Pro	Lys
		35					40					45			
Thr	Glu	Glu	Glu	Ala	Tyr	Ala	Leu	Lys	Lys	Ile	Ser	Tyr	Gln	Leu	Lys
	50					55					60				
Val	Asp	Leu	Trp	Gln	Pro	Ser	Ser	Ile	Ser	Tyr	Val	Ser	Glu	Gly	Thr
65					70					75					80
Val	Thr	Asp	Val	His	Ile	Pro	Gln	Asn	Gly	Ser	Arg	Ala	Leu	Leu	Ala
				85					90					95	
Phe	Leu	Gln	Glu	Ala	Asn	Ile	Gln	Tyr	Lys	Val	Leu	Ile	Glu	Asp	Leu
			100					105					110		
Gln	Lys	Thr	Leu	Glu	Lys	Gly	Ser	Ser	Leu	His	Thr	Gln	Arg	Asn	Arg
		115					120					125			
Arg	Ser	Leu	Ser	Gly	Tyr	Asn	Tyr	Glu	Val	Tyr	His	Ser	Leu	Glu	Glu
		130				135					140				
Ile	Gln	Asn	Trp	Met	His	His	Leu	Asn	Lys	Thr	His	Ser	Gly	Leu	Ile
145					150					155					160
His	Met	Phe	Ser	Ile	Gly	Arg	Ser	Tyr	Glu	Gly	Arg	Cys	Leu	Phe	Ile
				165					170					175	
Leu	Lys	Leu	Gly	Arg	Arg	Ser	Arg	Leu	Lys	Arg	Ala	Val	Trp	Ile	Asp
			180					185					190		
Cys	Gly	Ile	His	Ala	Arg	Glu	Trp	Ile	Gly	Pro	Ala	Phe	Cys	Gln	Trp
		195					200					205			
Phe	Val	Lys	Glu	Ala	Leu	Leu	Thr	Tyr	Lys	Ser	Asp	Pro	Ala	Met	Arg
	210					215					220				
Lys	Met	Leu	Asn	His	Leu	Tyr	Phe	Tyr	Ile	Met	Pro	Val	Phe	Asn	Val
225					230					235					240
Asp	Gly	Tyr	His	Phe	Ser	Trp	Thr	Asn	Asp	Arg	Phe	Trp	Arg	Lys	Thr
			245						250					255	
Arg	Ser	Arg	Asn	Ser	Arg	Phe	Arg	Cys	Arg	Gly	Val	Asp	Ala	Asn	Arg
			260					265					270		
Asn	Trp	Lys	Val	Lys	Trp	Cys	Asp	Glu	Gly	Ala	Ser	Met	His	Pro	Cys
		275					280					285			
Asp	Asp	Thr	Tyr	Cys	Gly	Pro	Phe	Pro	Glu	Ser	Glu	Pro	Glu	Val	Lys
	290					295					300				
Ala	Val	Ala	Asn	Phe	Leu	Arg	Lys	His	Arg	Lys	His	Ile	Arg	Ala	Tyr
305					310					315					320
Leu	Ser	Phe	His	Ala	Tyr	Ala	Gln	Met	Leu	Leu	Tyr	Pro	Tyr	Ser	Tyr
			325						330					335	
Lys	Tyr	Ala	Thr	Ile	Pro	Asn	Phe	Arg	Cys	Val	Glu	Ser	Ala	Ala	Tyr
			340					345					350		
Lys	Ala	Val	Asn	Ala	Leu	Gln	Ser	Val	Tyr	Gly	Val	Arg	Tyr	Arg	Tyr
		355					360					365			
Gly	Pro	Ala	Ser	Thr	Thr	Leu	Tyr	Val	Ser	Ser	Gly	Ser	Ser	Met	Asp
	370					375					380				
Trp	Ala	Tyr	Lys	Asn	Gly	Ile	Pro	Tyr	Ala	Phe	Ala	Phe	Glu	Leu	Arg
385					390					395					400
Asp	Thr	Gly	Tyr	Phe	Gly	Phe	Leu	Leu	Pro	Glu	Met	Leu	Ile	Lys	Pro
			405						410					415	
Thr	Cys	Thr	Glu	Thr	Met	Leu	Ala	Val	Lys	Asn	Ile	Thr	Met	His	Leu
			420					425					430		
Leu	Lys	Lys	Cys	Pro											
			435												

<210> 129
 <211> 2530
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (186)...(1199)

<221> misc_feature
 <222> (1)...(2530)
 <223> n = A,T,C or G

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<400> 129
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ggagccatgg cggctggggc cgggggtcgc cgggcggcgg cggcgccgag gggctgagcc 120
ggccgcggggc agcgccatgg cggcgccggg ttgcggaccc tgagcgccgg cgcgggggcgc 180
gcacc atg aac tcg tgg gac gcg ggc ctg gcg ggg cta ctg gtg ggc acg 230
      Met Asn Ser Trp Asp Ala Gly Leu Ala Gly Leu Leu Val Gly Thr
        1             5             10             15

atg ggc gtc tcg ctg ctg tcc aac gcg ctg gtg ctg ctc tgc ctg ctg 278
Met Gly Val Ser Leu Leu Ser Asn Ala Leu Val Leu Leu Cys Leu Leu
        20             25             30

cac agc gcg gac atc cgc cgc cag gcg ccg gcg ctc ttc acc ctg aac 326
His Ser Ala Asp Ile Arg Arg Gln Ala Pro Ala Leu Phe Thr Leu Asn
        35             40             45

ctc acg tgc ggg aac ctg ctg tgc acc gtg gtc aac atg ccg ctc acg 374
Leu Thr Cys Gly Asn Leu Leu Cys Thr Val Val Asn Met Pro Leu Thr
        50             55             60

ctg gcc ggc gtc gtg gcg cgg cgg cag ccg gcg ggc gac cgc ctg tgc 422
Leu Ala Gly Val Val Ala Arg Arg Gln Pro Ala Gly Asp Arg Leu Cys
        65             70             75

cgc ctg gct gcc ttc ctc gac acc ttc ctg gct gcc aac tcc atg ctc 470
Arg Leu Ala Ala Phe Leu Asp Thr Phe Leu Ala Ala Asn Ser Met Leu
        80             85             90             95

agc atg gcc gcg ctc agc atc gac cgc tgg gtg gcc gtg gtc ttc ccg 518
Ser Met Ala Ala Leu Ser Ile Asp Arg Trp Val Ala Val Val Phe Pro
        100            105            110

ctg agc tac cgg gcc aag atg cgc ctc cgc gac gcg gcg ctc atg gtg 566
Leu Ser Tyr Arg Ala Lys Met Arg Leu Arg Asp Ala Ala Leu Met Val
        115            120            125

gcc tac acg tgg ctg cac gcg ctc acc ttc cca gcc gcc gcg ctc gcc 614
Ala Tyr Thr Trp Leu His Ala Leu Thr Phe Pro Ala Ala Ala Leu Ala
        130            135            140

ctg tcc tgg ctc ggc ttc cac cag ctg tac gcc tcg tgc acg ctg tgc 662
Leu Ser Trp Leu Gly Phe His Gln Leu Tyr Ala Ser Cys Thr Leu Cys
        145            150            155

agc cgg cgg ccg gac gag cgc ctg cgc ttc gcc gtc ttc act ggc gcc 710
Ser Arg Arg Pro Asp Glu Arg Leu Arg Phe Ala Val Phe Thr Gly Ala
        160            165            170            175

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ttc cac gct ctc agc ttc ctg ctc tcc ttc gtc gtg ctc tgc tgc acg	758
Phe His Ala Leu Ser Phe Leu Leu Ser Phe Val Val Leu Cys Cys Thr	
180 185 190	
tac ctc aag gtg ctc aag gtg gcc cgc ttc cat tgc aag cgc atc gac	806
Tyr Leu Lys Val Leu Lys Val Ala Arg Phe His Cys Lys Arg Ile Asp	
195 200 205	
gtg atc acc atg cag acg ctc gtg ctg ctg gtg gac ctg cac ccc agt	854
Val Ile Thr Met Gln Thr Leu Val Leu Leu Val Asp Leu His Pro Ser	
210 215 220	
gtg cgg gaa cgc tgt ctg gag gag cag aag cgg agg cga cag cga gcc	902
Val Arg Glu Arg Cys Leu Glu Glu Gln Lys Arg Arg Arg Gln Arg Ala	
225 230 235	
acc aag aag atc agc acc ttc ata ggg acc ttc ctt gtg tgc ttc gcg	950
Thr Lys Lys Ile Ser Thr Phe Ile Gly Thr Phe Leu Val Cys Phe Ala	
240 245 250 255	
ccc tat gtg atc acc agg cta gtg gag ctc ttc tcc acg gtg ccc atc	998
Pro Tyr Val Ile Thr Arg Leu Val Glu Leu Phe Ser Thr Val Pro Ile	
260 265 270	
ggc tcc cac tgg ggg gtg ctg tcc aag tgc ttg gcg tac agc aag gcc	1046
Gly Ser His Trp Gly Val Leu Ser Lys Cys Leu Ala Tyr Ser Lys Ala	
275 280 285	
gca tcc gac ccc ttt gtg tac tcc tta ctg cga cac cag tac cgc aaa	1094
Ala Ser Asp Pro Phe Val Tyr Ser Leu Leu Arg His Gln Tyr Arg Lys	
290 295 300	
agc tgc aag gag att ctg aac agg ctc ctg cac aga cgc tcc atc cac	1142
Ser Cys Lys Glu Ile Leu Asn Arg Leu Leu His Arg Arg Ser Ile His	
305 310 315	
tcc tct ggc ctc aca ggc gac tct cac agc cag aac att ctg ccg gtg	1190
Ser Ser Gly Leu Thr Gly Asp Ser His Ser Gln Asn Ile Leu Pro Val	
320 325 330 335	
tct gag tga aggaccgcgc tcctgctgaa gagtttagaa tgaggcagcg	1239
Ser Glu *	
gtgagaagaa ggggtgggagg gcgtgggggc ccctgggtgg acaccaccag ccaccagtcc	1299
ctggcatgcc cagatgatcc tggttccctg gcttgtaggg gctccagagc ctgcttcctg	1359
gttcctcaag ggcagatatt ggacacttcc ttatttgtca ccaaaggaat gactgtaggc	1419
cgtgtgttg cccttctttc taagaagctg ctttgagctc ctggactcac ctgaggctcc	1479
ctgggggatg acactcagtt ctgtcactgt caaggatgca gagagctggg ggtaggtggg	1539
aagcatgggtg tccacctgcc tgctgaccac tggacgctgc tccatgctga agaaaagtga	1599
cagtctccag gggacatttc agccatgctg aaaggaggcg tggcagtggg cawttggccc	1659
ggatctaaca tggcacctcg tctccacagg gtagtggtgg ctgcttcaac ccaaattatta	1719
ttcagctggg actaacgaca ttgtgcccag ctgggactct tgggctctgt gcctgaggga	1779
aaatgtttca caactagtgg ctgcccaatt gctgctgacc agttgtctta gaaatggtca	1839
attggattca acttttagtcc tctccttccc cctaaaagcg aatgtttgtg tgtgcagaca	1899
atcttagcat gaaaaatgggt taaataggct ggtcctacat gtattagggt ctttcaagtt	1959
tgactgggag gtcacctttt tctgatttac aagtccctaat tggtggagct cagtaaagggt	2019
aggaggaagg tggctgggtg gtcctccctt cccctgttt gtgacctgaa tttacaggaa	2079
gtgtttcaac ttgtcttatg catcttatct ggcattgcct gggagatgga tgggcaagaa	2139
ctggcctgag cagggatttt tgccttgatt ttaagtcact gggttccatt gtcctggcac	2199

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ctccattttcc ttagttttctg taagcctggt aacagaaaagt agaggctatt caagggttatt 2259
aagaaaagtgc cctgtgctaa tgatgagaca gtgaattttt ttttttttcr agatgggagt 2319
ttcactctta ttgccaggc tagagtgcaa tgggtgcgac taggctcacc gcaacctctg 2379
ccttccagggt tcaagtgatt agagacagtg aaatttttat ggaatactgc acctataaaa 2439
cacatgccaa tctgttagca gtcctgactt gatttaataa aaaccaagga gagccaaaaa 2499
aaaaaaaaa aaaaaaaaaa aaaangggcg g 2530

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<210> 130

<211> 337

<212> PRT

<213> Homo sapiens

<400> 130

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Gly Val Ser Leu Leu Ser Asn Ala Leu Val Leu Leu Cys Leu Leu His
20     25     30
Ser Ala Asp Ile Arg Arg Gln Ala Pro Ala Leu Phe Thr Leu Asn Leu
35     40     45
Thr Cys Gly Asn Leu Leu Cys Thr Val Val Asn Met Pro Leu Thr Leu
50     55     60
Ala Gly Val Val Ala Arg Arg Gln Pro Ala Gly Asp Arg Leu Cys Arg
65     70     75     80
Leu Ala Ala Phe Leu Asp Thr Phe Leu Ala Ala Asn Ser Met Leu Ser
85     90     95
Met Ala Ala Leu Ser Ile Asp Arg Trp Val Ala Val Val Phe Pro Leu
100    105    110
Ser Tyr Arg Ala Lys Met Arg Leu Arg Asp Ala Ala Leu Met Val Ala
115    120    125
Tyr Thr Trp Leu His Ala Leu Thr Phe Pro Ala Ala Ala Leu Ala Leu
130    135    140
Ser Trp Leu Gly Phe His Gln Leu Tyr Ala Ser Cys Thr Leu Cys Ser
145    150    155    160
Arg Arg Pro Asp Glu Arg Leu Arg Phe Ala Val Phe Thr Gly Ala Phe
165    170    175
His Ala Leu Ser Phe Leu Leu Ser Phe Val Val Leu Cys Cys Thr Tyr
180    185    190
Leu Lys Val Leu Lys Val Ala Arg Phe His Cys Lys Arg Ile Asp Val
195    200    205
Ile Thr Met Gln Thr Leu Val Leu Leu Val Asp Leu His Pro Ser Val
210    215    220
Arg Glu Arg Cys Leu Glu Glu Gln Lys Arg Arg Arg Gln Arg Ala Thr
225    230    235    240
Lys Lys Ile Ser Thr Phe Ile Gly Thr Phe Leu Val Cys Phe Ala Pro
245    250    255
Tyr Val Ile Thr Arg Leu Val Glu Leu Phe Ser Thr Val Pro Ile Gly
260    265    270
Ser His Trp Gly Val Leu Ser Lys Cys Leu Ala Tyr Ser Lys Ala Ala
275    280    285
Ser Asp Pro Phe Val Tyr Ser Leu Leu Arg His Gln Tyr Arg Lys Ser
290    295    300
Cys Lys Glu Ile Leu Asn Arg Leu Leu His Arg Arg Ser Ile His Ser
305    310    315    320
Ser Gly Leu Thr Gly Asp Ser His Ser Gln Asn Ile Leu Pro Val Ser
325    330    335
Glu

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<210> 131

<211> 2699

<212> DNA
 <213> Homo sapiens
 <220>
 <221> CDS
 <222> (299)...(1636)

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<400> 131
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ccgcctgctc tggccccggc cccggccccg cggaccatgc gctgggccc cccaggggaa 180
acccgacccg gccaagggcc cgcaaagacg aggtctcccg gccggggccc ctcccgggcc 240
cccagctctc ggccggcgcc ctgccccgcg tcccggagcc gcgtgagcct gcggggcc 298
atg gag cgc gcg ccg ccc gac ggg ccg ctg aac gct tgc ggg gcg ctg 346
Met Glu Arg Ala Pro Pro Asp Gly Pro Leu Asn Ala Ser Gly Ala Leu
  1          5          10          15

gcg ggc gat gcg gcg gcg gcg ggc ggg gcg cgc ggc ttc tgc gca gcc 394
Ala Gly Asp Ala Ala Ala Ala Gly Gly Ala Arg Gly Phe Ser Ala Ala
          20          25          30

tgg acc gcg gtg ctg gcc gcg ctc atg gcg ctg ctc atc gtg gcc acg 442
Trp Thr Ala Val Leu Ala Ala Leu Met Ala Leu Leu Ile Val Ala Thr
          35          40          45

gtg ctg ggc aac gcg ctg gtc atg ctc gcc ttc gtg gcc gac tgc agc 490
Val Leu Gly Asn Ala Leu Val Met Leu Ala Phe Val Ala Asp Ser Ser
          50          55          60

ctc cgc acc cag aac aac ttc ttc ctg ctc aac ctc gcc atc tcc gac 538
Leu Arg Thr Gln Asn Asn Phe Phe Leu Leu Asn Leu Ala Ile Ser Asp
          65          70          75          80

ttc ctc gtc ggc gcc ttc tgc atc cca ctg tat gta ccc tac gtg ctg 586
Phe Leu Val Gly Ala Phe Cys Ile Pro Leu Tyr Val Pro Tyr Val Leu
          85          90          95

aca ggc cgc tgg acc ttc ggc cgg ggc ctc tgc aag ctg tgg ctg gta 634
Thr Gly Arg Trp Thr Phe Gly Arg Gly Leu Cys Lys Leu Trp Leu Val
          100          105          110

gtg gac tac ctg ctg tgc acc tcc tct gcc ttc aac atc gtg ctc atc 682
Val Asp Tyr Leu Leu Cys Thr Ser Ser Ala Phe Asn Ile Val Leu Ile
          115          120          125

agc tac gac cgc ttc ctg tgc gtc acc cga gcg gtc tca tac cgg gcc 730
Ser Tyr Asp Arg Phe Leu Ser Val Thr Arg Ala Val Ser Tyr Arg Ala
          130          135          140

cag cag ggt gac acg cgg cgg gca gtg cgg aag atg ctg ctg gtg tgg 778
Gln Gln Gly Asp Thr Arg Arg Ala Val Arg Lys Met Leu Leu Val Trp
          145          150          155          160

gtg ctg gcc ttc ctg ctg tac gga cca gcc atc ctg agc tgg gag tac 826
Val Leu Ala Phe Leu Leu Tyr Gly Pro Ala Ile Leu Ser Trp Glu Tyr
          165          170          175

ctg tcc ggg ggc agc tcc atc ccc gag ggc cac tgc tat gcc gag ttc 874
Leu Ser Gly Gly Ser Ser Ile Pro Glu Gly His Cys Tyr Ala Glu Phe
          180          185          190

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ttc tac aac tgg tac ttc ctc atc acg gct tcc acc ctg gag ttc ttt	922
Phe Tyr Asn Trp Tyr Phe Leu Ile Thr Ala Ser Thr Leu Glu Phe Phe	
195 200 205	
acg ccc ttc ctc agc gtc acc ttc ttt aac ctc agc atc tac ctg aac	970
Thr Pro Phe Leu Ser Val Thr Phe Phe Asn Leu Ser Ile Tyr Leu Asn	
210 215 220	
atc cag agg cgc acc cgc ctc cgg ctg gat ggg gct cga gag gca gcc	1018
Ile Gln Arg Arg Thr Arg Leu Arg Leu Asp Gly Ala Arg Glu Ala Ala	
225 230 235 240	
ggc ccc gag ccc cct ccc gag gcc cag ccc tca cca ccc cca ccg cct	1066
Gly Pro Glu Pro Pro Pro Glu Ala Gln Pro Ser Pro Pro Pro Pro	
245 250 255	
ggc tgc tgg ggc tgc tgg cag aag ggg cac ggg gag gcc atg ccg ctg	1114
Gly Cys Trp Gly Cys Trp Gln Lys Gly His Gly Glu Ala Met Pro Leu	
260 265 270	
cac agg tat ggg gtg ggt gag gcg gcc gta ggc gct gag gcc ggg gag	1162
His Arg Tyr Gly Val Gly Glu Ala Ala Val Gly Ala Glu Ala Gly Glu	
275 280 285	
gcg acc ctc ggg ggt ggc ggt ggg ggc ggc tcc gtg gct tca ccc acc	1210
Ala Thr Leu Gly Gly Gly Gly Gly Gly Gly Ser Val Ala Ser Pro Thr	
290 295 300	
tcc agc tcc ggc agc tcc tcg agg ggc act gag agg ccg cgc tca ctc	1258
Ser Ser Ser Gly Ser Ser Ser Arg Gly Thr Glu Arg Pro Arg Ser Leu	
305 310 315 320	
aag agg ggc tcc aag ccg tcg gcg tcc tcg gcc tcg ctg gag aag cgc	1306
Lys Arg Gly Ser Lys Pro Ser Ala Ser Ser Ala Ser Leu Glu Lys Arg	
325 330 335	
atg aag atg gtg tcc cag agc ttc acc cag cgc ttt cgg ctg tct cgg	1354
Met Lys Met Val Ser Gln Ser Phe Thr Gln Arg Phe Arg Leu Ser Arg	
340 345 350	
gac agg aaa gtg gcc aag tcg ctg gcc gtc atc gtg agc atc ttt ggg	1402
Asp Arg Lys Val Ala Lys Ser Leu Ala Val Ile Val Ser Ile Phe Gly	
355 360 365	
ctc tgc tgg gcc cca tac acg ctg ctg atg atc atc cgg gcc gcc tgc	1450
Leu Cys Trp Ala Pro Tyr Thr Leu Leu Met Ile Ile Arg Ala Ala Cys	
370 375 380	
cat ggc cac tgc gtc cct gac tac tgg tac gaa acc tcc ttc tgg ctc	1498
His Gly His Cys Val Pro Asp Tyr Trp Tyr Glu Thr Ser Phe Trp Leu	
385 390 395 400	
ctg tgg gcc aac tcg gct gtc aac cct gtc ctc tac cct ctg tgc cac	1546
Leu Trp Ala Asn Ser Ala Val Asn Pro Val Leu Tyr Pro Leu Cys His	
405 410 415	
cac agc ttc cgc cgg gcc ttc acc aag ctg ctc tgc ccc cag aag ctc	1594
His Ser Phe Arg Arg Ala Phe Thr Lys Leu Leu Cys Pro Gln Lys Leu	
420 425 430	
aaa atc cag ccc cac agc tcc ctg gag cac tgc tgg aag tga	1636

Lys Ile Gln Pro His Ser Ser Leu Glu His Cys Trp Lys *

435

440

445

gtggcccacc agagcctccc tcagccacgc ctctctcagc ccagggtctcc tgggcatctg 1696
gccctgctgc cccctaccgc gctcgttccc ccagggggtga gcccgcgct gtctgtggcc 1756
ctctcttaat gccacggcag ccaccctgcc atggaggcgc ctctctgggt tggccagagg 1816
gcccctcact ggctggactg gaggtctgggt ggccggccct gccccccaca ttctggctcc 1876
accggggagg gacagtctgg aggtcccaga catgctgccc accccctgct ggtgcccacc 1936
cttcgcagtt actggttggg gttcttccca aagcaagcac ctgggtgtgc tccaggcttc 1996
ctgccctagc agtttgctc tgcacgtgca cacacctgca caccctgca cacacctgca 2056
caccgtccct ctccccggac aagcccagga cactgccttt gctgccttct gtctcttgca 2116
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gacaaaattg ctgaggagct cagggtgga ttggcagggt tgggctccca cgccctctc 2356
cctccgctaa ggcttcggc tgagctgtgc cagctgcttc tgcccacccc gcctctgggc 2416
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tgggggttgt tgggaggagg gggcccggt gggcccgagg gtcccaaggc gtgcaggggc 2536
ggtccagagg aggtgcccgc gcaggggccc ctccgccatg tgctgtgcac ccgtgccacg 2596
cgctctgcat gctcctctgc ctgtgcccgc tgcgtgccc tgcaaaccgt gaggtcacia 2656
taaagtgtat ttttttaaaa aaaaaaaaaa aaaaaaaaaa aaa 2699

<210> 132

<211> 445

<212> PRT

<213> Homo sapiens

<400> 132

Met Glu Arg Ala Pro Pro Asp Gly Pro Leu Asn Ala Ser Gly Ala Leu
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Ala Gly Asp Ala Ala Ala Ala Gly Gly Ala Arg Gly Phe Ser Ala Ala
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Trp Thr Ala Val Leu Ala Ala Leu Met Ala Leu Leu Ile Val Ala Thr
35 40 45
Val Leu Gly Asn Ala Leu Val Met Leu Ala Phe Val Ala Asp Ser Ser
50 55 60
Leu Arg Thr Gln Asn Asn Phe Phe Leu Leu Asn Leu Ala Ile Ser Asp
65 70 75 80
Phe Leu Val Gly Ala Phe Cys Ile Pro Leu Tyr Val Pro Tyr Val Leu
85 90 95
Thr Gly Arg Trp Thr Phe Gly Arg Gly Leu Cys Lys Leu Trp Leu Val
100 105 110
Val Asp Tyr Leu Leu Cys Thr Ser Ser Ala Phe Asn Ile Val Leu Ile
115 120 125
Ser Tyr Asp Arg Phe Leu Ser Val Thr Arg Ala Val Ser Tyr Arg Ala
130 135 140
Gln Gln Gly Asp Thr Arg Arg Ala Val Arg Lys Met Leu Leu Val Trp
145 150 155 160
Val Leu Ala Phe Leu Leu Tyr Gly Pro Ala Ile Leu Ser Trp Glu Tyr
165 170 175
Leu Ser Gly Gly Ser Ser Ile Pro Glu Gly His Cys Tyr Ala Glu Phe
180 185 190
Phe Tyr Asn Trp Tyr Phe Leu Ile Thr Ala Ser Thr Leu Glu Phe Phe
195 200 205
Thr Pro Phe Leu Ser Val Thr Phe Phe Asn Leu Ser Ile Tyr Leu Asn
210 215 220
Ile Gln Arg Arg Thr Arg Leu Arg Leu Asp Gly Ala Arg Glu Ala Ala
225 230 235 240
Gly Pro Glu Pro Pro Pro Glu Ala Gln Pro Ser Pro Pro Pro Pro Pro
245 250 255
Gly Cys Trp Gly Cys Trp Gln Lys Gly His Gly Glu Ala Met Pro Leu

70					75					80						
cag	ctt	acc	ttc	cct	gct	gtc	acg	ctg	tgc	aac	ctc	aac	gag	ttc	cgc	526
Gln	Leu	Thr	Phe	Pro	Ala	Val	Thr	Leu	Cys	Asn	Leu	Asn	Glu	Phe	Arg	
	85					90					95					
ttt	agc	caa	gtc	tcc	aag	aat	gac	ctg	tat	cat	gct	ggg	gag	ctg	ctg	574
Phe	Ser	Gln	Val	Ser	Lys	Asn	Asp	Leu	Tyr	His	Ala	Gly	Glu	Leu	Leu	
100					105					110					115	
gcc	ctg	ctc	aac	aac	agg	tat	gag	ata	cca	gac	aca	cag	atg	gca	gat	622
Ala	Leu	Leu	Asn	Asn	Arg	Tyr	Glu	Ile	Pro	Asp	Thr	Gln	Met	Ala	Asp	
				120					125					130		
gaa	aag	cag	ctg	gag	ata	ctg	cag	gac	aaa	gcc	aac	ttc	cgc	agc	ttc	670
Glu	Lys	Gln	Leu	Glu	Ile	Leu	Gln	Asp	Lys	Ala	Asn	Phe	Arg	Ser	Phe	
			135					140					145			
aaa	ccc	aaa	ccc	ttc	aac	atg	cgt	gag	ttc	tac	gac	cga	gct	ggg	cac	718
Lys	Pro	Lys	Pro	Phe	Asn	Met	Arg	Glu	Phe	Tyr	Asp	Arg	Ala	Gly	His	
		150					155					160				
gac	att	cga	gac	atg	ctg	ctc	tcc	tgc	cac	ttc	cgg	ggg	gag	gtc	tgc	766
Asp	Ile	Arg	Asp	Met	Leu	Leu	Ser	Cys	His	Phe	Arg	Gly	Glu	Val	Cys	
	165					170					175					
agc	gct	gaa	gac	ttc	aag	gtg	gtc	ttc	aca	cgc	tat	gga	aag	tgc	tac	814
Ser	Ala	Glu	Asp	Phe	Lys	Val	Val	Phe	Thr	Arg	Tyr	Gly	Lys	Cys	Tyr	
180					185					190					195	
acg	ttc	aac	tcg	ggc	cga	gat	ggg	cgg	ccg	cgg	ctg	aag	acc	atg	aag	862
Thr	Phe	Asn	Ser	Gly	Arg	Asp	Gly	Arg	Pro	Arg	Leu	Lys	Thr	Met	Lys	
				200					205					210		
gat	ggg	acg	ggc	aat	ggg	ctg	gaa	atc	atg	ctg	gac	atc	cag	cag	gac	910
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Gln Lys Val Ala Ile Lys Ile Val Asn Arg Glu Lys Leu Ser Glu Ser
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His Pro His Val Leu Lys Leu His Asp Val Tyr Glu Asn Lys Lys Tyr
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Leu	Ser	Thr	His	Asp	Gln	Pro	Ser	Val	Gln	Ala	Leu	Ala	Asp	Glu	Lys					
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ggc	ccc	ccc	aag	gac	aag	aag	ctc	ctg	gcc	acc	aac	ggg	acc	cct	ctg	2416				
Gly	Pro	Pro	Lys	Asp	Lys	Lys	Leu	Leu	Ala	Thr	Asn	Gly	Thr	Pro	Leu					
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ccc	tga	ccccacgggg	cgggggaggg	aggggacccc	cctccacccc	ccttcctg										2472				
Pro	*																			

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Lys	Leu	Gly	Val	His	Cys	Ile	Thr	Gly	Gln	Lys	Val	Ala	Ile	Lys	Ile
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Val	Asn	Arg	Glu	Lys	Leu	Ser	Glu	Ser	Val	Leu	Met	Lys	Val	Glu	Arg
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Glu	Ile	Ala	Ile	Leu	Lys	Leu	Ile	Glu	His	Pro	His	Val	Leu	Lys	Leu
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His	Asp	Val	Tyr	Glu	Asn	Lys	Lys	Tyr	Leu	Tyr	Leu	Val	Leu	Glu	His
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Val	Ser	Gly	Glu	Leu	Phe	Asp	Tyr	Leu	Val	Lys	Lys	Gly	Arg	Leu	
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Thr	Pro	Lys	Glu	Ala	Arg	Lys	Phe	Phe	Arg	Gln	Ile	Val	Ser	Ala	Leu
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Asp	Phe	Cys	His	Ser	Tyr	Ser	Ile	Cys	His	Arg	Asp	Leu	Lys	Pro	Glu

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Met	Ala	Ser	Leu	Gln	Val	Gly	Asp	Ser	Leu	Leu	Glu	Thr	Ser	Cys Gly
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Ser	Pro	His	Tyr	Ala	Cys	Pro	Glu	Val	Ile	Lys	Gly	Glu	Lys	Tyr Asp
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225				230						235				240
Glu	Lys	Val	Lys	Arg	Gly	Val	Phe	His	Met	Pro	His	Phe	Ile	Pro Pro
			245						250					255
Asp	Cys	Gln	Ser	Leu	Leu	Arg	Gly	Met	Ile	Glu	Val	Glu	Pro	Glu Lys
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Glu	Ser	Met	Ala	Ser	Leu	Gly	Cys	Phe	Arg	Asp	Arg	Glu	Arg	Leu His
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Thr	Arg	Arg	Ala	Leu	Glu	Met	Ala	Gln	His	Ser	Gln	Arg	Ser	Arg Ser
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Arg	Gly	Pro	Arg	Gly	Gly	Gly	Ala	Gly	Glu	Gln	Pro	Pro	Pro	Pro Ser
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Gly	Gly	Thr	Pro	Leu	His	Ser	Pro	Leu	His	Thr	Pro	Arg	Ala	Ser Pro
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Thr	Gly	Thr	Pro	Gly	Thr	Thr	Pro	Pro	Pro	Ser	Pro	Gly	Gly	Gly Val
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Gly	Gly	Ala	Ala	Trp	Arg	Ser	Arg	Leu	Asn	Ser	Ile	Arg	Asn	Ser Phe
545				550						555				560
Leu	Gly	Ser	Pro	Arg	Phe	His	Arg	Arg	Lys	Met	Gln	Val	Pro	Thr Ala
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Glu	Glu	Met	Ser	Ser	Leu	Thr	Pro	Glu	Ser	Ser	Pro	Glu	Leu	Ala Lys
		580						585					590	
Arg	Ser	Trp	Phe	Gly	Asn	Phe	Ile	Ser	Leu	Asp	Lys	Glu	Gln	Ile
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Phe	Leu	Val	Leu	Lys	Asp	Lys	Pro	Leu	Ser	Ser	Ile	Lys	Ala	Asp Ile
	610					615					620			
Val	His	Ala	Phe	Leu	Ser	Ile	Pro	Ser	Leu	Ser	His	Ser	Val	Leu Ser
625					630					635				640

Gln	Thr	Ser	Phe	Arg	Ala	Glu	Tyr	Lys	Ala	Ser	Gly	Gly	Pro	Ser	Val
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Phe	Gln	Lys	Pro	Val	Arg	Phe	Gln	Val	Asp	Ile	Ser	Ser	Ser	Glu	Gly
			660					665					670		
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	770					775									